

# JVC

## SERVICE MANUAL

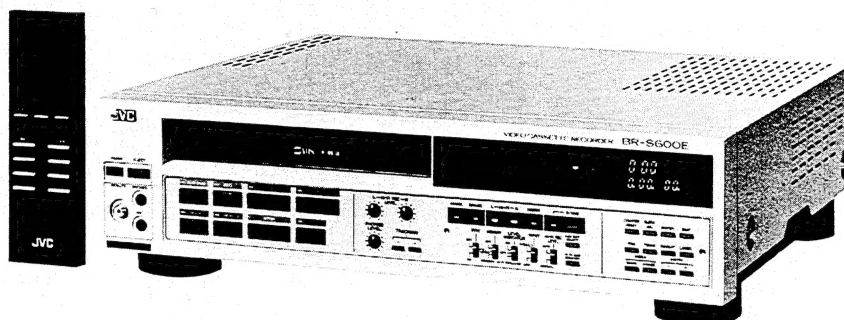
### VIDEO CASSETTE RECORDER

## BR-S600E

Hi-Fi

S-VHS  
625

VHS  
PAL



### SPECIFICATIONS

#### GENERAL

Format	: VHS · S-VHS standard
Tape width	: 12.65 mm (1/2 inch)
Tape speed	: 23.39 mm/s (SP)
Recording & Playback time	: 180 min. with JVC SE-180 or E-180 (SP) 360 min. with JVC SE-180 or E-180 (LP) (Playback only)
Operating temperature	: 5°C to 40°C
Operating humidity	: Less than 80% R.H.
Storage temperature	: -20°C to 60°C
Power consumption	: 30 watts
Power requirement	: AC 220-240 V ~ 50/60 Hz
Dimensions	: 435 mm(W) x 124 mm(H) x 370 mm(D) (Excluding protrusions)
Weight	: 7.5 kg
Fast forward/Rewind time	: Within 4.0 min. for 180 min. tape

#### VIDEO

Recording and Playback system	: Rotary four head, herical scanning system Luminance: FM recording Colour: Down converted direct recording
Video signal system	: PAL-type colour signal/PAL-type Y/C signal
Input line video	: 0.5 ~ 2.0 Vp-p, 75 ohms, unbalanced

Y/C443	: Y: 0.8 ~ 1.2 Vp-p, 75 ohms, unbalanced C: 0.2 ~ 0.4 Vp-p, 75 ohms, unbalanced (Burst)
Output line video Y/C443	: 1.0 Vp-p, 75 ohms, unbalanced Y: 1.0 Vp-p, 75 ohms, unbalanced C: 0.3 Vp-p, 75 ohms, unbalanced (Burst)
Signal-to-noise ratio	: 43 dB
Horizontal resolution	: 400 lines (S-VHS) 250 lines (VHS)

#### AUDIO

Input (line)	: -8 dBs, 50 k-ohms, unbalanced (Normal, Hi-Fi)
(microphone)	: -67 dBs, high impedance
Output level (line)	: -6 dBs, 1 k-ohms, unbalanced (Normal, Hi-Fi)
Signal-to-noise ratio	: 40 dB (Normal)
Dynamic range	: 85 dB (Hi-Fi/SP)
Frequency response	: 70 to 10,000 Hz ±6 dB (Normal) 20 to 20,000 Hz ±6 dB (Hi-Fi)
Wow and flutter	: Less than 0.008% wrms (Hi-Fi)

#### ACCESSORIES

: Remote control unit x 1
"R6" battery x 2
Remote control cable for remote control unit x 1
Switch cover x 1

Design and specifications subject to change without notice.

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# Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

## ● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the  symbol and shaded (▨) parts are critical for safety.

Replace only with specified part numbers.

Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.

Caution for continued protection against fire hazard.

Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:

- 1) Wires covered with PVC tubing
- 2) Double insulated wires
- 3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:

- |                    |                                      |            |
|--------------------|--------------------------------------|------------|
| 1) Insulation Tape | 3) Spacers                           | 5) Barrier |
| 2) PVC tubing      | 4) Insulation sheets for transistors |            |

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

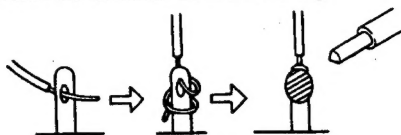


Fig. 1

7. Observe that wires do not contact heat producing parts (heat-sinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10–15 kg of force in any direction will not loosen it.

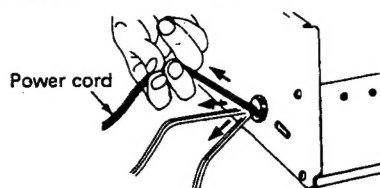


Fig. 2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)

In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector

In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

1) Connector part number : E03830-001

2) Required tool : Connector crimping tool of the proper type which will not damage insulated parts.

3) Replacement procedure

(1) Remove the old connector by cutting the wires at a point close to the connector.

Important : Do not reuse a connector (discard it).



Fig. 3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

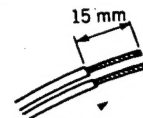


Fig. 4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

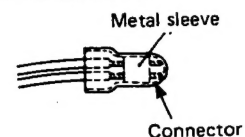


Fig. 5

(4) As shown in Fig. 6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

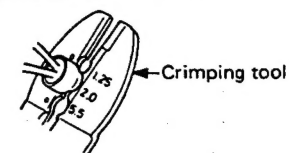


Fig. 6

(5) Check the four points noted in Fig. 7.

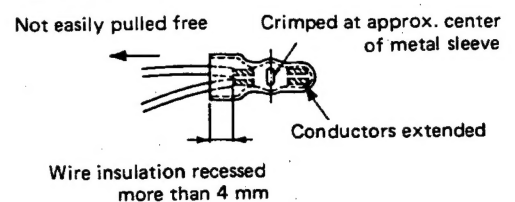


Fig. 7

## ● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

### 1. Insulation resistance test

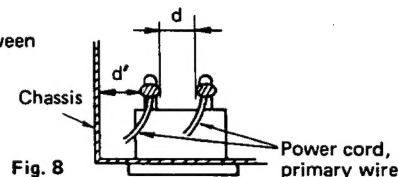
Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

### 2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

### 3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.



### 4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

**Measuring Method:** (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

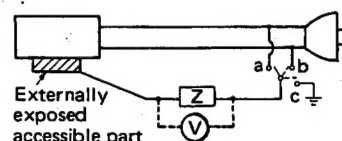


Fig. 9

### 5. Grounding (Class I model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

**Measuring Method:**

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

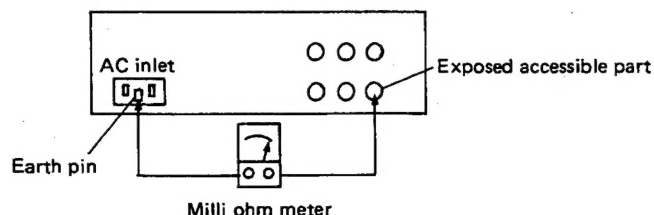


Fig. 10

#### Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	$Z \leq 0.1 \text{ ohm}$
Europe & Australia	$Z \leq 0.5 \text{ ohm}$

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	$R \geq 1 \text{ M}\Omega / 500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3 \text{ mm}$
100 to 240 V			AC 1.5 kV 1 minute	$d, d' \geq 4 \text{ mm}$
110 to 130 V	USA & Canada	—	AC 900 V 1 minute	$d, d' \geq 3.2 \text{ mm}$
110 to 130 V	Europe & Australia	$R \geq 10 \text{ M}\Omega / 500 \text{ V DC}$	AC 3 kV 1 minute (Class II)	$d \geq 4 \text{ mm}$
200 to 240 V			AC 1.5 kV 1 minute (Class I)	$d' \geq 8 \text{ mm (Power cord)}$ $d' \geq 6 \text{ mm (Primary wire)}$

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	$1 \text{ k}\Omega$	$i \leq 1 \text{ mA rms}$	Exposed accessible parts
110 to 130 V	USA & Canada	$0.15 \mu\text{F}$ and $1.5 \text{ k}\Omega$	$i \leq 0.5 \text{ mA rms}$	Exposed accessible parts
110 to 130 V	Europe & Australia	$2 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Antenna earth terminals
220 to 240 V		$50 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Other terminals

Table 2 Leakage current specifications for each region

**Note:** These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

# INSTRUCTIONS

# JVC

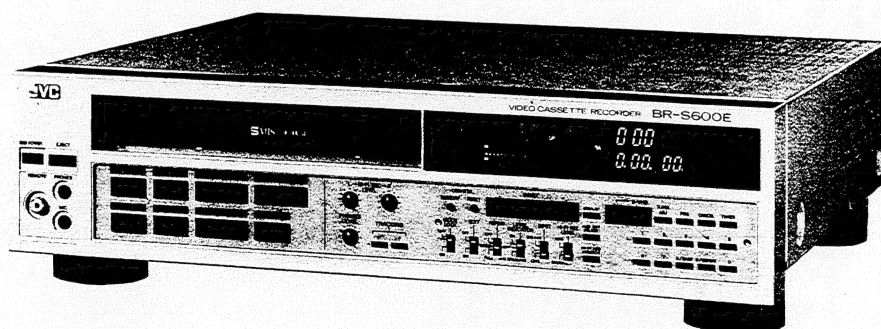
## BR-S600E

VIDEO CASSETTE RECORDER  
MAGNETOSCOPE A CASSETTE  
VIDEOKASSETTENRECORDER

**S VHS**  
625

VHS  
PAL

*Hi-Fi*



**Warning Notice  
FOR YOUR SAFETY (Australia)**

1. Insert this plug only into effectively earthed three-pin power outlet.
2. If any doubt exists regarding the earthing, consult a qualified electrician.
3. Extension cord, if used, must be three-core correctly wired.

**IMPORTANT (In the United Kingdom)  
Mains Supply (AC 240 V~)  
WARNING – THIS APPARATUS  
MUST BE EARTHED**

The wires in this mains lead are coloured in accordance with the following code:

GREEN-and-YELLOW:	EARTH
BLUE:	NEUTRAL
BROWN:	LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows. The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the safety earth symbol  $\perp$  or coloured GREEN or GREEN-AND-YELLOW. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or which is coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

This unit is produced to comply with Directives 76/889/EEC, 82/499/EEC and 87/308/EEC.

**WARNING:**

**TO PREVENT FIRE OR SHOCK  
HAZARD, DO NOT EXPOSE THIS  
APPLIANCE TO RAIN OR MOISTURE.**

**CAUTION**

To prevent electric shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified service personnel.

**Note:** The rating plate and the safety caution are on the rear of the unit.

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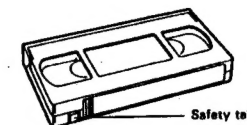
**PRECAUTIONS**

**Handling and storage**

- Avoid using the recorder under the following conditions:
  - extremely hot, cold or humid places,
  - dusty places,
  - near appliances generating strong magnetic fields,
  - places subject to vibrations, and
  - poorly ventilated places.
- Be careful of moisture condensation. Avoid using the recorder immediately after moving it from a cold place to a warm place or soon after heating a room which was cold. The water vapour in warm air will condense on the still-cold video head drum and tape guides and may cause damage to the tape and the recorder.
- Handle the recorder carefully.
  - Do not block the ventilation openings.
  - Do not place anything heavy on the recorder.
  - Do not place anything which might spill and cause trouble on the top cover of the recorder.
  - Use in horizontal (flat) position only.
- In case of transportation,
  - Avoid violent shocks to the recorder during packing and transportation.
  - Before packing, be sure to remove the cassette from the recorder.

**Video cassettes**

- This recorder employs S-VHS and VHS cassettes only.
  - S-VHS: SE-180 for 180 minutes, SE-120 for 120 minutes and SE-60 for 60 minutes of recording.
  - VHS: E-240 for 240 minutes, E-180 for 180 minutes, E-120 for 120 minutes, E-90 for 90 minutes, E-60 for 60 minutes and E-30 for 30 minutes of recording.
- Video cassettes are equipped with a safety tab to prevent accidental erasure. When the tab is removed, recording cannot be performed. If you wish to record on a cassette whose tab has already been removed, use adhesive tape to block the hole.



- Avoid exposing the cassettes to direct sunlight. Keep them away from heaters.
- Avoid extreme humidity, violent vibrations or shocks, strong magnetic fields (near a motor, transformer or magnet) and dusty places.
- Place the cassettes in cassette cases and position vertically.

The previous **S-VHS** logo mark has been changed to **S-VHS**. Regardless of this change in the official logo the S-VHS system represented by either logo, new or old remains completely identical, and therefore products carrying either logo can be used interchangeably.

## FEATURES

### High-quality pictures

- Super VHS recording and playback circuitry ensuring super-quality picture with a horizontal resolution of more than 400 lines.
- Separated Y/C signal inputs and outputs for higher quality dubbing and playback of Super VHS signals.
- HQ (High Quality) System circuits (Detail Enhancer, Luminance Signal Noise Reduction, and 20% higher white clip level) to ensure the best possible pictures in the regular VHS mode.
- Super DA-4 head system for superlative picture quality in SP (Standard Play) recording/playback and LP (Long Play) playback.
- Flying erase head and insert editing circuit for professional-class insert edits.
- Edit switch for best possible dubs.

### High-quality sound

- Conforms to the Hi-Fi VHS standard for superlative stereo sound with a dynamic range of more than 85 dB.
- Advanced switching noise reduction circuit.
- Hi-Fi recording level controls with ALC switch.
- Peak-hold audio level indicators/Hi-Fi tracking meter.
- Audio dubbing facility.
- Headphone jack with output level control.

### Special-effects playback

- Noiseless stills and frame advance.
- Variable-speed slow motion at 1/6, 1/12, 1/18, 1/24 and 1/30 normal speed.
- Variable-speed search at 3, 5, and 9 times normal speed in both directions.
- Double-speed forward playback and normal-speed reverse playback.

### Playback features

- Timer playback using a 1-Year/8-event timer.
- Full repeat and video-end repeat.

### Tape access features

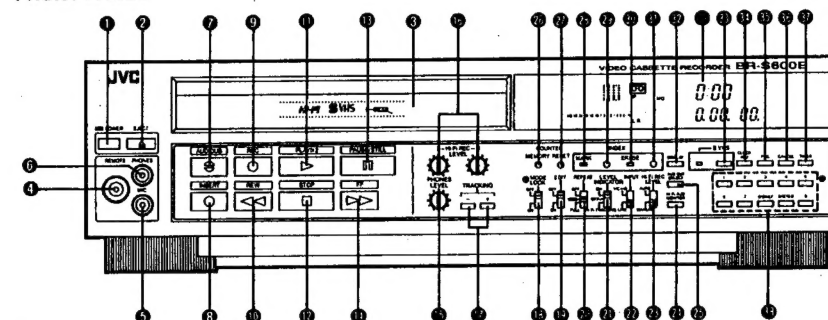
- VHS Index Search System which automatically places index codes at the beginning of any recording, with mark/erase facilities for manual marking of extra index codes during recording and playback, and manual erasing of unnecessary index codes during playback.
- Automatic location of up to 9 coded programmes by remote-specifying the number of index codes to be skipped. A specified code can be detected in the Shuttle Search, or the faster REW and FF modes for automatic playback.
- Intro search to play back the beginning of each indexed programme for about 5 seconds in fast-motion.
- Realtime go-to function for locating a point on tape a specified time away from the beginning.
- Realtime search function for locating a point on tape a specified time away from the current position in either direction.
- Half-loading mechanism for quick tape access: Index and Intro Search, and Realtime Go-to and Search can all be carried out in the REW and FF modes as well as in the Shuttle Search mode.
- Counter memory function for returning to a designated point on tape.
- Shuttle Search with lock function at 9 times normal speed.

### Other value features

- Mode lock system.
- Realtime tape counter showing tape time in hours, minutes and seconds by counting the recorded 25-Hz control signal pulses.
- Automatic functions including Auto Play and Next-Function Memory.
- Automatic backspace editing with Zero Frame Editing system.
- Remaining tape time indicator.
- On-screen record-pause mode display which signals elapsed pause time.
- Electronic tracking controls.

## CONTROLS AND CONNECTORS

### FRONT PANEL



#### 1 POWER button with LED indicator

Press to apply power to the BR-S600E. The indicator will light. Loading a cassette also turns the power on.

#### 2 EJECT button

Press to eject the cassette. This button can be pressed in any mode except Rec, Audio dub, Insert and Timer Standby. The Cassette indicator on the FDP (fluorescent display) will flash during automatic unloading of the cassette and then go out upon completion of ejection.

#### 3 Cassette loading slot

Insert a VHS or S-VHS cassette. The door will close and the indicator showing that a cassette is inside will appear on the FDP.

#### 4 Remote control terminal (RCA)

The provided remote control unit can be connected to this terminal.

#### 5 Microphone jack (3.5φ)

Connect a microphone having an high impedance and a 3.5-mm connector.

#### 6 Phones jack (3.5φ)

Connect a set of headphones having an impedance of 8 ohms and a 3.5-mm connector. The signal selected with the AUD OUT SELECT 7 and Hi-Fi AUD MONITOR 8 switches can be heard.

#### 7 AUDIO DUBBING button

Press while in the Still mode then press the PLAY/X2 button 9 to start audio dubbing. (See page 17.)

#### 8 INSERT button

Press while in the Still mode, then press the PLAY/X2 button 9 to start insert editing. (See page 17.)

#### 9 REC button

Press for normal recording.

#### 10 Rewind button (REW)

Press to rewind the tape inside the cassette. While the tape is being rewind, the REW indicator will light. This button can be pressed in any mode except Record, Eject, Insert, A. Dub, or Timer Standby. To release the Rewind mode, press the PLAY/X2 STOP or FF button, depending on the mode you want to select next. Pressing this button in the Play or Still mode enables high-speed playback at about 9 times normal in the reverse direction. During search the REW indicator will remain lit.

If the PLAY/X2 button is pressed within 2 seconds after the REW button has been pressed, the tape rewinds to the counter reading of "0H00M00S" or the beginning of the

tape depending on whether the MEMORY switch is set to MEMORY or OFF (during rewind the PLAY indicator is blinking) and playback starts automatically.

#### 11 PLAY/X2 button

Press once to play back a tape; press again for double-speed playback. To return to normal playback, press it again. Also press this button to cancel the Pause/Still or Search modes. (See pages 9 and 10.)

#### 12 STOP button

To stop the tape. When the STOP button is pressed, the tape is unloaded and then the Stop mode is engaged.

#### 13 PAUSE/STILL button

Press to temporarily stop the tape to avoid recording unwanted material or to view a still picture. The picture advances each time this button is pressed.

#### 14 Fast Forward button (FF)

Press to fast forward the tape inside the cassette. While the tape is being fast forwarded, the FF indicator will light. This button can be pressed in any mode except Record, Insert, A. Dub or Timer Standby. To release the Fast Forward mode, press the PLAY/X2, STOP or REW button, depending on the mode you want to select next. Pressing this button in the Play or Still mode enables high-speed playback at about 9 times normal in the forward direction. During search the FF indicator will remain lit.

If the PLAY/X2 button is pressed within 2 seconds after the FF button has been pressed, the tape fast-forwards to the counter reading of "0H00M00S" when the MEMORY switch is set to MEMORY (during fast-forward the PLAY indicator is blinking) and playback starts automatically.

#### 15 PHONES LEVEL control

Adjusts the level of the audio output from the headphone jack.

#### 16 Hi-Fi LEFT/RIGHT REC LEVEL controls

When the Hi-Fi REC LEVEL switch is set to MANUAL, to adjust the left/right channel Hi-Fi audio recording level, turn these controls so that the audio level indicators in the display section light to "0" with the loudest signal.

#### 17 TRACKING buttons

If noise bars are seen during playback, use these buttons to reduce them. The tracking is reset to normal when both buttons are pressed together, a cassette is ejected, or the power cord is unplugged. These TRACKING buttons can also be used to adjust hi-fi tracking, referring to the hi-fi tracking meter.



## ② MODE LOCK switch

**ON:** In the lock mode, the tape control buttons (including REC, PLAY, FF, REW, STOP and PAUSE/STILL), the POWER, EJECT switches and tracking buttons cannot be used.

**OFF:** The lock mode is not engaged.

## ③ EDIT switch

Normally set to OFF. For making multi-generation dubs using this recorder as a player, set the switch to ON. Picture deterioration due to dubbing will be minimized.

## ④ REPEAT mode select switch

Repeat is possible when the MEMORY switch is set to OFF. (Not effective in the Timer Standby mode.)

**OFF:** No automatic operation.

**FULL REPEAT:** The tape will be automatically rewound to the beginning (as usual) and played back repeatedly. The entire tape can be played back again and again automatically.

**VIDEO:** The tape will be automatically rewound to the beginning and played back repeatedly to the end of the video signal.

## ⑤ LEVEL INDICATOR select switch

Selects the function of the audio level indicators/Hi-Fi tracking meter.

**ON:** Set to this position to activate the audio level indicators on the FDP. The indicators show the audio level of the soundtrack selected with the AUD OUT SELECT switch ②.

**OFF:** No meter operation.

**Hi-Fi TRACKING:** Set to this position for checking Hi-Fi audio tracking.

## ⑥ INPUT select switch

This switch selects the video input available from the VIDEO IN Y/C 443 connector and the VIDEO IN LINE connector on the rear panel.

**Y/C 443:** Set to this position when recording separated Y/C signals applied to the Y/C 443 connector.

**LINE:** Set to this position when recording the composite video signal applied to the VIDEO IN LINE connector.

## ⑦ Hi-Fi REC LEVEL select switch

**AUTO:** Set to this position to activate the automatic level control (ALC) circuit for Hi-Fi audio.

**MANUAL:** Set to this position to use the Hi-Fi REC LEVEL controls for manual control.

## ⑧ Hi-Fi AUD MONITOR select switch

Press to select the Hi-Fi audio output. Each time the button is pressed, the Hi-Fi soundtrack to be heard changes (L/R Hi-Fi, Hi-Fi-L or Hi-Fi-R) and is indicated by the audio monitor indicators on the FDP.

## ⑨ AUD OUT SELECT switch

Press to select the audio output. Each time the button is pressed, the soundtrack to be heard changes (Hi-Fi, normal or mixed playback) and is indicated by the audio monitor indicators on the FDP.

## ⑩ COUNTER MEMORY button

When this button is pressed to ON; **[M]** will appear on the FDP and the tape will stop automatically at the counter reading of about "0H00M00S" in the Rewind or Fast Forward mode.

## ⑪ COUNTER RESET button

Press to reset the tape counter reading to "0H00M00S".

## ⑫ INDEX MARK indicator

Blinks when an index code is being recorded.

## ⑬ INDEX MARK button

Press during playback or recording to put an index code onto the tape. (See page 11.)

## ⑭ INDEX ERASE indicator

Lights in the Erase mode, and blinks when an index code is actually being erased.

## ⑮ INDEX ERASE button

Press during playback to erase an index code. (See page 11.)

## ⑯ DISPLAY button

Press to change the display from the Timer Set mode to the Clock mode. Normally set a realtime tape counter, remaining tape time (REMAIN) and date (DATE) display.

## ⑰ S-VHS mode select button

This button switches between the S-VHS and VHS recording modes. When the S-VHS mode is selected, the S-VHS indicator on the left lights. S-VHS recordings are possible only when S-VHS cassettes are used in the S-VHS recording mode.

## ⑱ CLOCK ADJUST button

Press to adjust the clock.

## ⑲ PROGRAM button

Press to programme the timer.

## ⑳ CANCEL button

Use to clear programme data in the Timer Set mode.

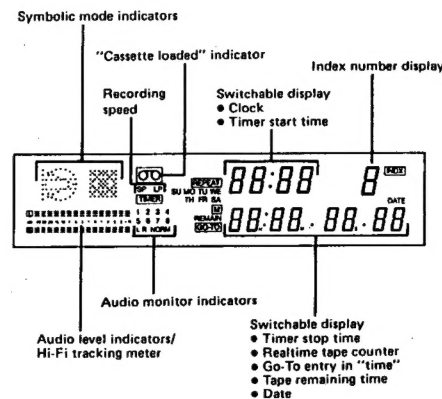
## ㉑ Timer

Press to engage the Timer Standby mode.

## ㉒ Multi-purpose numeric keys

Clock setting  
Timer programming  
Realtime GO-TO & Search  
Index Search

## ㉓ Fluorescent display panel (FDP)



## REAR PANEL

### ① AC Input socket (AC IN)

Connect to a 220-240 V 50/60 Hz power outlet.

### ② V. LOCK control

When operating in the Still mode, turn this control to eliminate vertical vibrations of the picture, if observed.

### ③ VIDEO OUT LINE connector

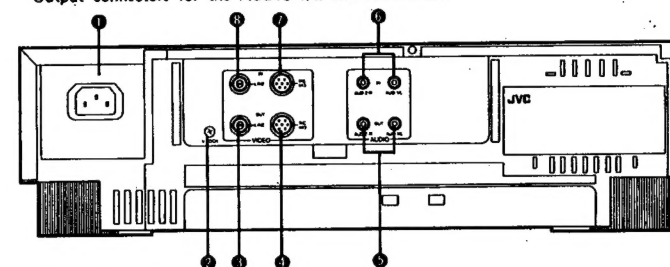
Output connector for the composite video signal.

### ④ VIDEO OUT Y/C443 connector

Output connector for the Y/C443 video signal.

### ⑤ AUDIO OUT connectors

Output connectors for the AUDIO-1/L and AUDIO-2/R



## Remote Control Unit

This is a wired remote control unit, and cannot be used unless properly connected to the BR-S600E.

### ① Numeric keys

These keys can be used in conjunction with the Realtime Go-To and Index Search functions.

### ② GO-TO button

Press to engage the Realtime Go-To mode. (See page 12.)

### ③ INDEX button

Press to engage the Index Search mode. (See page 11.)

### ④ INTRO button

Press to engage the Intro Search mode. (See page 13.)

### ⑤ Rewind button (REW)

Press to rewind the tape inside the cassette. While the tape is being rewound, the REW indicator will light. This button can be pressed in any mode except Record, Eject, Insert, A.Dub or Timer Standby. To release the Rewind mode, press the PLAY/X2 STOP or FF button, depending on the mode you want to select next. Pressing this button in the Play or Still mode enables high-speed playback at about 9 times normal in the reverse direction. During search the REW indicator will remain lit.

If the PLAY/X2 button is pressed within 2 seconds after the REW button has been pressed, the tape rewinds to the counter reading of "0H00M00S" or the beginning of the tape depending on whether the MEMORY switch is set to MEMORY or OFF (during rewind the PLAY indicator is blinking) and playback starts automatically.

### ⑥ Fast Forward button (FF)

Press to fast forward the tape inside the cassette. While the tape is being fast forwarded, the FF indicator will light. This button can be pressed in any mode except Record, Timer Standby, Insert, A.Dub or Eject. To release the Fast Forward mode, press the PLAY/X2, STOP or REW button, depending on the mode you want to select next. Pressing this button in the Play or Still mode enables high-speed playback at about 9 times normal in the forward direction. During search the FF indicator will remain lit.

If the PLAY/X2 button is pressed within 2 seconds after the FF button has been pressed, the tape fast-forwards to the counter reading of "0H00M00S" (during fast-forward the

audio signals.

### ⑦ AUDIO IN connectors

Input connectors for the AUDIO-1/L and AUDIO-2/R audio signals.

### ⑧ VIDEO IN Y/C443 connector

Input connector for the Y/C443 video signal. Functions when the front panel INPUT select switch is set to Y/C443.

### ⑨ VIDEO IN LINE connector

Input connector for the composite video signal. Functions when the front panel INPUT select switch is set to LINE.

## Installing the batteries

• Insert two "R6"-size batteries (provided) into the battery compartment on the rear of the remote control unit, observing the correct polarity.



PLAY indicator blinks) and playback starts automatically.

### ⑦ REC button

Press together with the PLAY/X2 button to start recording.

### ⑧ PLAY/X2 button

Press once to play back a tape; press again for double-speed playback. To return to normal playback, press it again. Also press this button to cancel the Pause/Still, or Search modes. (See page 10.)

### ⑨ PAUSE/STILL button

Press to temporarily stop the tape to avoid recording unwanted material or to view a still picture. The picture advances each time this button is pressed.

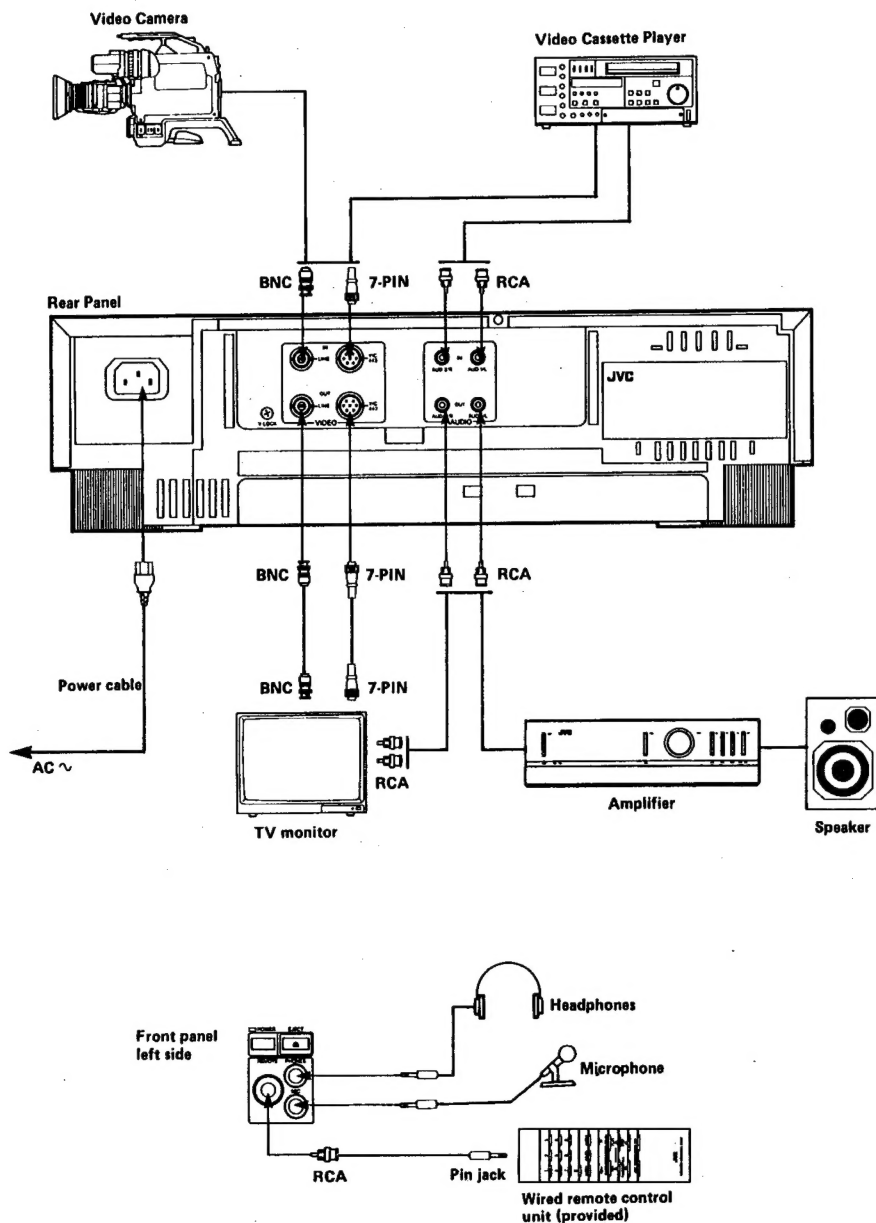
### ⑩ STOP button

To stop the tape. When the STOP button is pressed, the tape is unloaded and then the STOP mode is engaged.

### ⑪ VARIABLE SEARCH <</> buttons

Use these buttons to control the search speed. Both slow-motion and fast-motion search are available. The slow-motion speed can be changed in 5 steps; 1/6, 1/12, 1/18, 1/24, and 1/30 of normal speed in the forward direction. For fast-motion search, available speeds are x3, x5, and x9 in both directions and x2 in the forward direction. No audio is available in the Variable Search mode. To cancel the Variable Search mode, press the PLAY/X2, STOP, FF or REW button. (See page 10.) When the FF or Rew button is pressed, the shuttle search mode is entered in the corresponding direction.

## CONNECTIONS



## LOADING AND UNLOADING A VIDEO CASSETTE

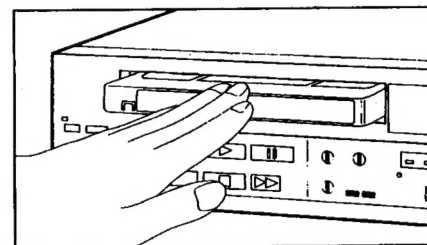
### Loading

Insert a cassette as illustrated with its labelled side facing you.

- With a cassette inserted, the mark to indicate "cassette inserted" appears on the FDP.

### Unloading

Press the EJECT button. The cassette will be ejected.



### Motorized loading system

- The cassette can be loaded even when the power has not been turned on. Inserting a cassette into the loading slot turns the power on automatically.

- The cassette can be unloaded even when the power has been turned off. If a cassette is inside, pressing the EJECT button turns the power on automatically and, after ejection of the cassette, shuts it off automatically.
- Inserting a cassette, with its safety tab removed, turns the recorder on and playback of the cassette begins automatically.

### Notes:

- Be sure to insert the cassette firmly into the slot; otherwise, it will be automatically rejected.
- The automatic loading mechanism will operate only when the cassette is inserted correctly.

### Caution

- If unloading of a cassette is not possible, check to see whether the TIMER indicator is lit. If iris, press the TIMER button so the TIMER indicator goes out.
- Do not attempt to pull out the cassette once automatic loading has started.

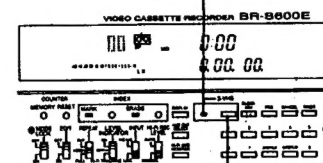
### WARNING

- Do not insert fingers or any foreign object beyond the door flap of the cassette loading slot, as this could lead to injury or damage to the mechanism. Show special caution with children.

## S-VHS RECORDING AND PLAYBACK

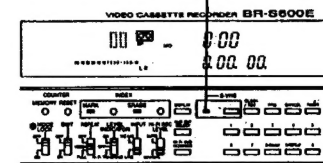
### S-VHS Recording

Insert an S-VHS cassette. This indicator will light automatically, and S-VHS recording will be performed with this indicator lit.



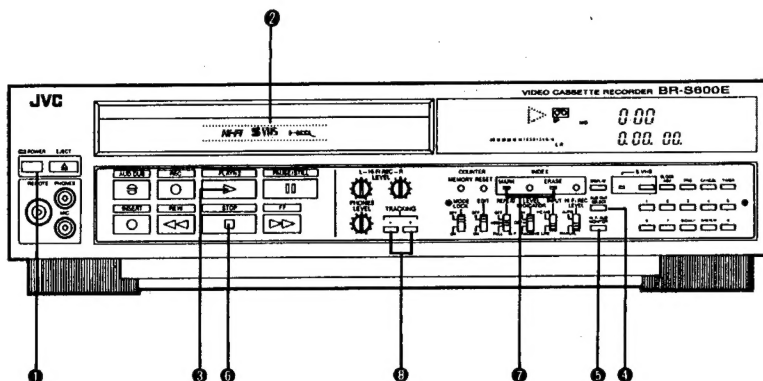
### S-VHS Playback

Insert a recorded S-VHS cassette. This indicator will light automatically, and if the recorded signal is S-VHS, playback will be performed with this indicator lit.



To make a VHS recording on an S-VHS cassette, press this button to enter the VHS mode. The indicator will go out. To return to the S-VHS mode, press this button again.

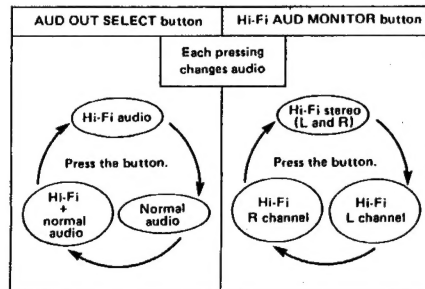
## PLAYBACK



- 1 Press the POWER button on.
- 2 Insert a pre-recorded cassette into the cassette loading slot.
  - When the cassette loaded has no safety tab, playback starts automatically.

To select the soundtrack to be heard

By pressing the AUD OUT SELECT ③ and Hi-Fi AUD MONITOR ④ buttons, the audio output changes as shown below.



Note:

- Noise bars may appear on the screen if you play back a tape which was recorded using another VTR. In such cases, adjust the TRACKING controls. Press one of the buttons to correct the picture referring to both the monitored picture and the Hi-Fi tracking meter. Optimum tracking is obtained when the largest number of LEDs light. After playback, tracking may be reset manually by pressing both buttons simultaneously. It is reset automatically when the tape is ejected, the Record mode engaged or the power cord unplugged.

## SPECIAL-EFFECTS PLAYBACK

### SHUTTLE SEARCH

When the REW or FF button is pressed in the Stop mode, normal rewind or fast forward takes place. When these buttons are pressed in the Play, or Still mode, the tape runs at about 9 times normal speed in the corresponding direction. The buttons can be locked and the indicator lights. You can follow

the speeded-up picture on the monitor screen.

- For briefer scanning, keep the SHUTTLE SEARCH button pressed for more than 2 seconds; when you release the button, the Search mode will be cancelled.

### STILL & FRAME ADVANCE

- Press the PAUSE/STILL button in the Play mode, the tape will stop and a still picture will be obtained.
- To advance the still picture, press again.
- To return to the normal Play mode, press the PLAY/X2 button.

Note:

- When the STILL mode continues for longer than about 5 minutes, the STOP mode will be entered automatically.

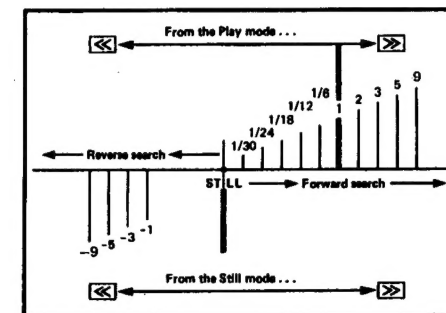
### DOUBLE-SPEED PLAYBACK

- Press the PLAY/X2 button in the Play mode, double-speed playback will be engaged.
- To resume normal playback, press the same button again.

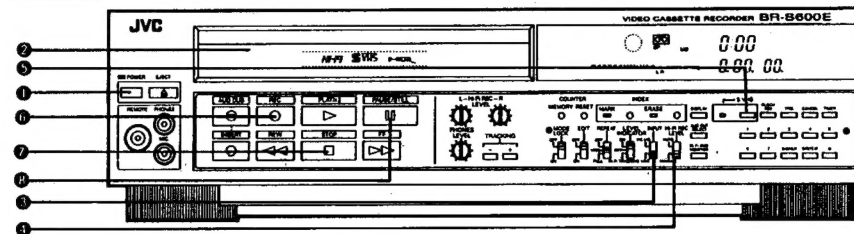
### VARIABLE SEARCH ( << and >> )

Using the remote control, variable speed search is possible in either forward or reverse direction from either the Still or Play mode.

- To search in the forward direction:
  - Press the >> button in the Play mode to start fast-motion searching from 2 times normal speed. To increase speed (to 3, 5, 9 times normal), press >> repeatedly.
  - Press the >> button in the Still mode to start slow-motion searching from 1/30 normal speed. To increase speed (to 1/24, 1/18, 1/12, 1/6, normal, X2, X3, X5, X9), press >> repeatedly. To decrease speed, press <<



## RECORDING



- 1 Press the POWER button to ON.
- 2 Insert a video cassette into the cassette loading slot.
- 3 Set the INPUT select switch as required.
- 4 Set the Hi-Fi REC LEVEL switch as required. (See pages 4 and 5.)
- 5 Set the S-VHS select button.
  - To record in the S-VHS mode, confirm that the LED indicator lights. (For S-VHS recording, S-VHS cassettes must be used.) To record in the VHS mode, press the S-VHS button ⑤, the LED indicator will go out.
- 6 Press the REC button to ON. The Record mode will be engaged and the REC button lamp will light. Make sure the

LED indicator lights.

(When using the provided remote control unit, press the REC and PLAY/X2 buttons simultaneously)

- Press the STOP button to stop recording.

### RECORD PAUSE

- Press the PAUSE/STILL button ⑦ to ON.
- To restart recording, press the PLAY/X2 button.

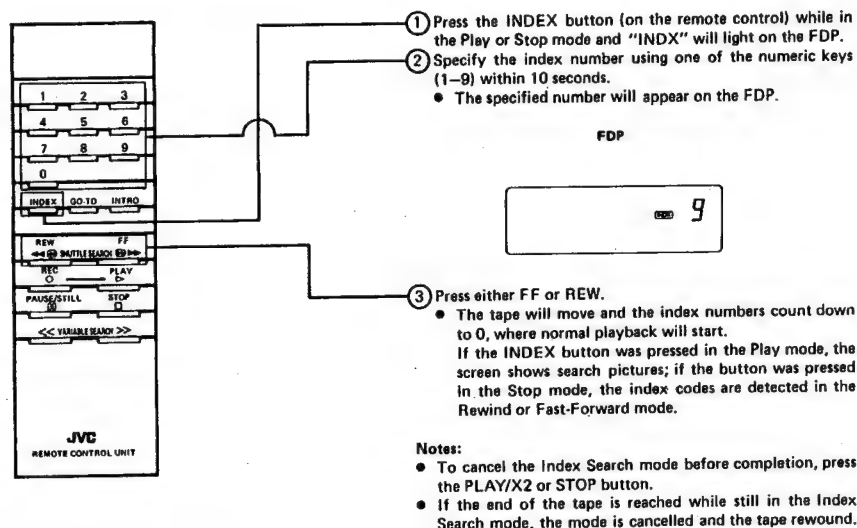
Note:

- When the PAUSE mode continues for longer than about 5 minutes, the STOP mode will be entered automatically.

## INDEX SEARCH FUNCTION

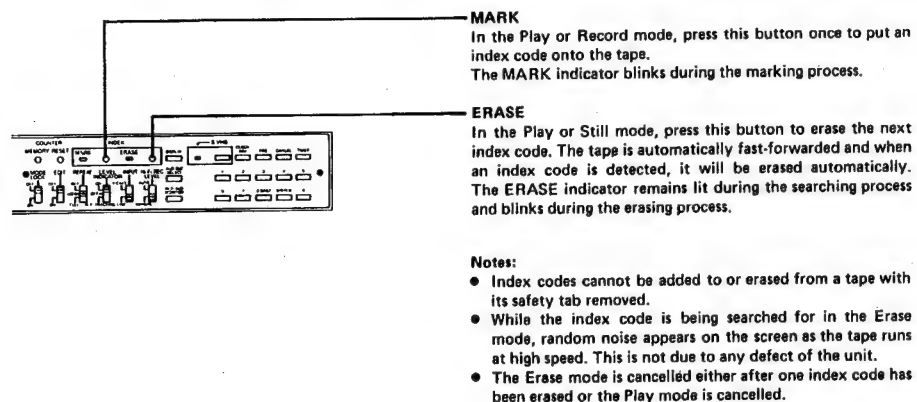
The Index Search function gives you automatic access to the beginning of individual recordings on the cassette tape. An Index Code is automatically placed on the tape control track each time a recording is begun. You can access any one of up to 9 of these indexed segments in either the forward or reverse direction.

### USING THE INDEX SEARCH FUNCTION



### CHANGING THE INDEX CODES

Index codes are automatically placed at the beginning of recordings which are started from the Stop mode. You can use the MARK button to add extra codes, and the ERASE button to erase codes. In neither case is there any effect on the audio or video recordings on the tape.

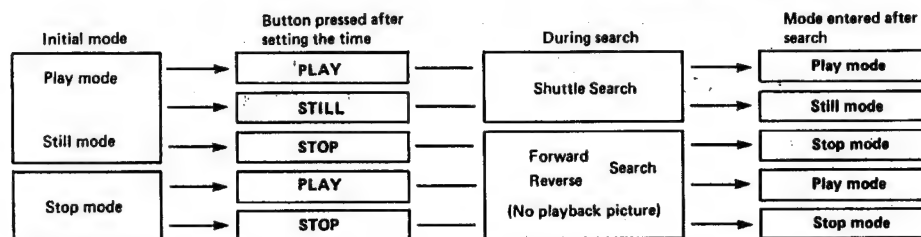
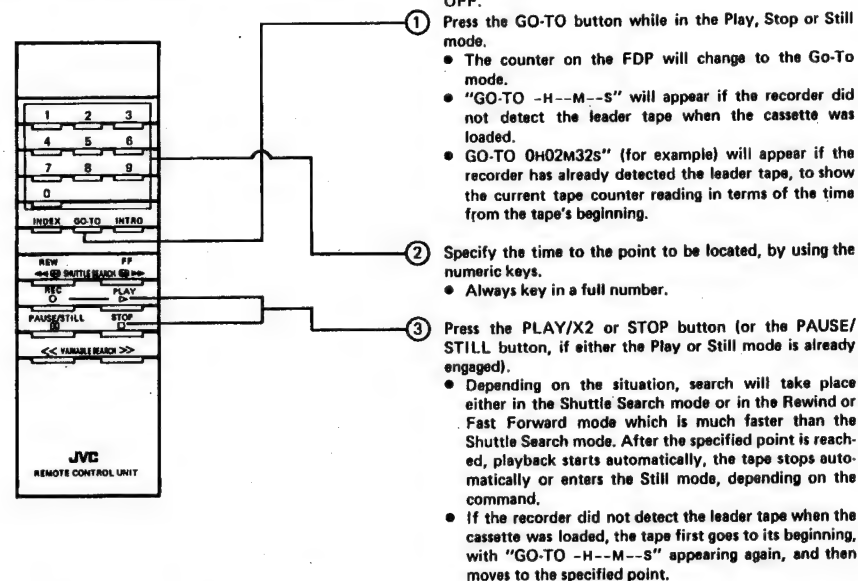
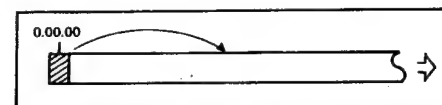


## REALTIME GO-TO FUNCTION

Unlike usual tape counters which show tape locations in numbers, this realtime tape counter shows tape time precisely in hours, minutes and seconds in all modes (Record, Play, Rewind, Fast Forward).

### Time Go-To function

The Time Go-To function gives you direct access to any point on the tape by simply specifying the time from the beginning.



**Notes:**

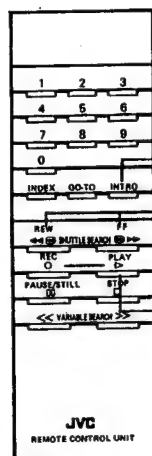
- Each step in the operation procedure must be followed by the next within 60 seconds, otherwise the Go-To mode will be cancelled.
- If the specified time exceeds the tape length, the tape fast forwards to the end and then rewinds to the beginning and stops.
- If the GO-TO button has been pressed in the Play or Still mode, a still picture can be obtained when the specified

point is reached, if you press the PAUSE/STILL button instead of the PLAY/X2 or STOP button after keying in the time.

- Use of other control buttons, while in the Time Go-To mode, cancels the mode.

## INTRO SEARCH FUNCTION

The Intro Search function lets you visually check the contents of each recording by playing back in fast motion a short segment of a program each time an index code is detected.



- ① Press the INTRO button while in the Play or Stop mode.
  - The INDX indicator on the FDP will light.
- ② Press the FF or REW button within 2 seconds.
  - The Intro Search will start in the corresponding direction.
  - Each time an index code is detected, the corresponding part is played back at the search speed (9 times normal) for about 5 seconds.
- ③ When you find the section you want to view, simply press the PLAY/X2 button.
  - Normal playback will start.

## NEXT-FUNCTION MEMORY

Before using these functions, set the REPEAT switch to OFF.

### Memory Play function

- If you want to watch the tape from its beginning after rewinding, press the REW button and the PLAY/X2 within 2 seconds. Playback will start automatically at the beginning of the tape, when the MEMORY button is set to OFF.

If you want to watch the tape from the counter reading of "0H 00M 00S", press the MEMORY button. Then, press the REW (or FF) button and then PLAY/X2.

- While the tape is being rewound, the PLAY indicator is blinking. To cancel the Memory Play mode and go to another mode, press the corresponding button (STOP, PLAY/X2, FF, REW, EJECT). Or turn the power off.

### Note:

- Successive pressing PLAY/X2 may cause malfunctioning. If this happens, make sure of the indication and reperform the operation.

### Memory Eject/Power-Off/Timer Standby

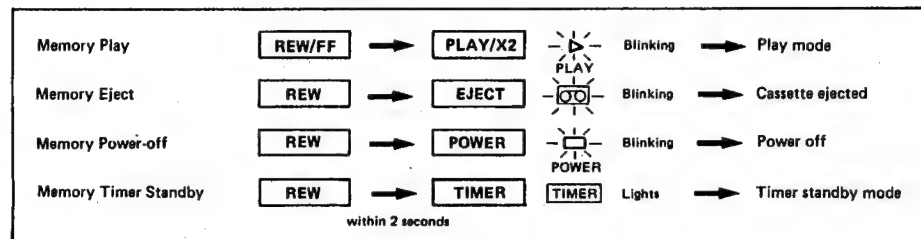
If you are going to eject the cassette, turn the power off or

engage the Timer Standby mode after rewinding the tape, you don't have to wait for completion of rewind to press the corresponding button.

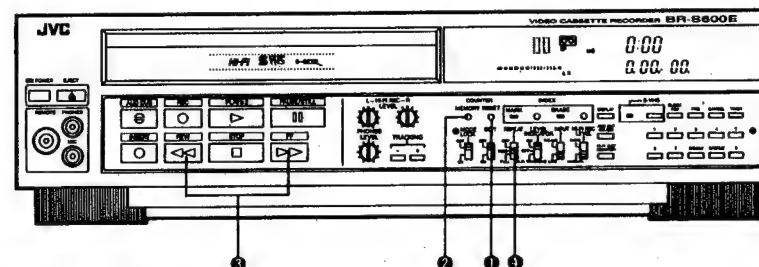
- To eject the cassette after rewind, press REW and then EJECT within 2 seconds. (To cancel the Memory Eject mode, press the STOP, EJECT or PLAY button, or turn the power off.)
- To turn the power off after rewind, press REW and then POWER within 2 seconds. (To cancel the Memory Power-off mode, press POWER.)
- To engage the Timer Standby mode after rewind, press REW and then TIMER within 2 seconds. (To cancel the Memory Timer Standby mode, press TIMER.)

### Notes:

- When the Timer Standby mode is specified, the tape is rewound always to the beginning regardless of the setting of the MEMORY button.
- When the Next-Function Memory mode is cancelled, make sure of that with the relevant indication on the FDP.



## COUNTER MEMORY AND FULL REPEAT/VIDEO REPEAT



You can use the counter memory function to automatically locate and stop at the beginning of any one program or segment on the tape from the Fast Forward or Rewind mode.

- ① Press the COUNTER RESET button at a point which you wish to locate later. Count indicator will show "0H 00M 00S" on the FDP.
- ② To locate the desired tape segment, press the MEMORY button.

- ③ Press FF or REW button in the Stop mode when the tape is in any position. The tape will return to the point where the COUNTER RESET button was pressed ("0H00M00S") and will stop automatically.

When the entire tape, from the beginning to the end, is to be repeated, proceed as follows:

1. Set the REPEAT switch ① to FULL.
2. Disengage the Counter Memory mode.

3. Press the PLAY/X2 button to start playback.

- When the tape reaches its end, it is rewound to the beginning and then played back again automatically. The procedure is repeated as many times as desired.

When the tape reaches its end in the Play or Record mode, it is automatically rewound to the beginning and then the Stop mode is engaged.

- When the MEMORY button is pressed, the tape automatically stops at the counter reading of "0H00M00S".

- 1 When the tape reaches the end of prerecorded signals in the Play mode, it is automatically rewound to the beginning and then played back again.

For repeat playback, proceed as follows.

1. Set the REPEAT switch to VIDEO.
2. Disengage the Counter Memory mode. (Otherwise the tape will stop at "0H00M00S" during rewind.)
3. Press the PLAY/X2 button to start playback.

### Note:

This function does not work when there is a blank section of more than 8 seconds at the beginning of the tape.

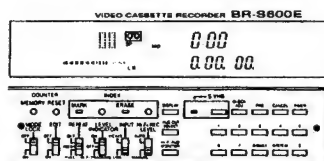
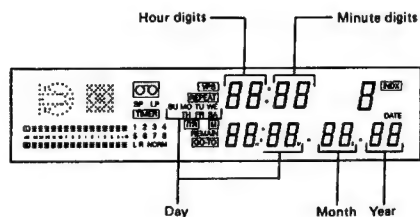


## CLOCK ADJUSTMENT

- 1 Press CLOCK ADJUST.
  - The display will change to the Clock Set mode with the hour indication blinking.
- 2 Set the hour and minute in that order.
  - The blinking position is ready for entry.
  - To set a one-digit number, first press "0", then press the numeric key for 1 to 9.
  - Zero will not be displayed in the tens place of the hour indication unless the cursor is moved back to the hour digits.
  - For a two-digit number, simply press the corresponding numeric keys in the right order.
  - In hour setting, numbers larger than 23 will be rejected.
  - In minute setting, numbers larger than 59 will be rejected.
- 3 Set the day and month in that order.
  - The setting method is the same as for time setting.
  - In day setting, invalid numbers such as January 32 or February 30 will be rejected.
  - February 29 will be accepted only during leap years.
  - In month setting, numbers larger than 12 will be rejected.
- 4 Set the year.
  - Key in only the last two digits of the year.
- 5 Press CLOCK ADJUST.
  - Press it at the exact instant of the time signal, and the clock will be set accurately to the present time.
  - The day-of-the-week indication will be displayed automatically.

### Notes:

- Clock setting is not possible if the TIMER button is engaged with the TIMER indicator lit. First check to see that the TIMER indicator is off.
- If you have made a mistake in entering the clock data, press the CLOCK ADJUST button and re-do the setting operation.

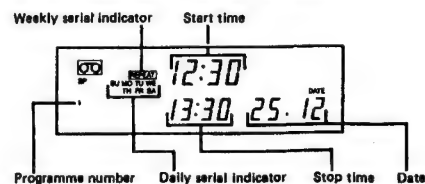


### Power failure indicator

The blinking 0:00 (initial condition of the display) is also a power failure indicator, showing that there has been a power failure exceeding about 3 to 5 minutes. Readjusting the time restores the normal condition of the clock display.

## AUTOMATIC TIMER PLAYBACK

- 1 Press PROGRAM.
  - The display will change to the Timer Set mode for programme number "1". To advance to programme numbers 2 - 8, press PROGRAM.
- 2 Enter the start time using numeric keys.
  - Invalid numbers will be rejected.
  - To key in a one-digit number of hours or minutes, first press [0]. Then press the relevant numeric key.
- 3 When the display changes to the next stage, key in the stop time and date in succession using numeric keys.
  - To start playback at the same time everyday starting on a certain day, press [8] and enter the date.
  - To start playback at the same time on the same day every week, press [9] and enter the date.

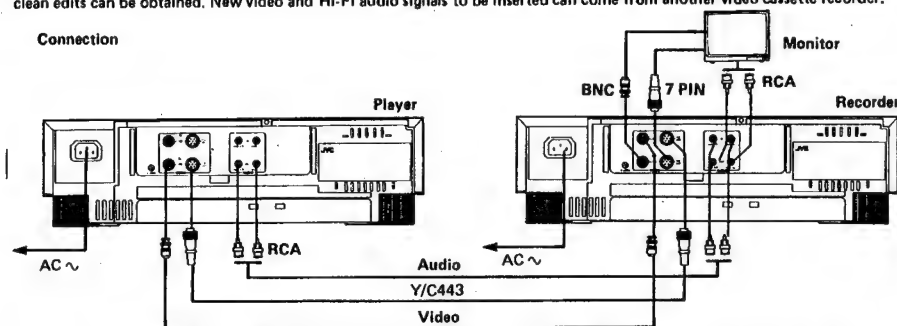


- 4 After making sure that the cassette is loaded, press TIMER.
  - The Timer Playback Standby mode will be engaged with the TIMER indicator and the preset programme number(s) illuminated and the power turned off.
  - With no cassette loaded, the TIMER and "cassette loaded" indicators will continue blinking.
  - If a preset programme contains errors, that programme number will not be illuminated. Recheck the programmed data.
  - During programming, if you press a wrong key and the flashing position has advanced, press the CANCEL key to return to the start of this programme to correct it.

## INSERT EDITING

Insert editing means recording a new scene into a section of pre-recorded tape so that a part of the original recording can be replaced with a new sequence without excessive picture distortion at edit-in and edit-out points. Thanks to the flying erase head, clean edits can be obtained. New video and Hi-Fi audio signals to be inserted can come from another video cassette recorder.

Connection



Procedure (for BR-S600E as the recorder)

- 1 Insert a pre-recorded cassette into the cassette loading slot.
- 2 Set the INPUT select switch as required.
- 3 Set the S-VHS button as required.
- 4 Set the Hi-Fi audio recording level, if the Hi-Fi REC select switch is set to MANUAL.
- 5 Play back the tape to determine the edit-out point (the end of the tape section to be replaced).
- 6 Press the PAUSE/STILL button at the edit-out point.
- 7 Press the COUNTER RESET button.
  - The counter will be reset to "0H 00M 00S".
- 8 Press the REW button to determine the edit-in point (the beginning of the tape section to be replaced).
- 9 Press the PAUSE/STILL button at the edit-in point.
- 10 Press the INSERT button.
  - This engages the Insert Standby mode in which the input signal can be monitored on the TV screen; the still picture changes into the input signal that you are going to record.
  - The input sound signal can also be monitored.
- 11 Play back the tape programme to be inserted on another recorder.
- 12 Press the PLAY/X2 button to start insert editing.
  - Now video and Hi-Fi audio signals will be recorded simultaneously.
  - At the counter reading of "0H 00M 00S", recording will

stop automatically.

- The tape will continue running in the Play mode.

### Notes:

- Do not use the STOP button to stop insert editing.
- If you wish to stop insert editing before the specified edit-out point is reached, press the COUNTER RESET button. Then the Play mode will be entered.
- Insert editing is also possible without determining the edit-out point. Simply start insert editing at the edit-in point and, where you wish to stop insert editing, press the PAUSE/STILL button. Since this VTR incorporates a flying erase head, even this simplified procedure makes clean edits, though there may be a slight discrepancy between the actual and intended edit points if insert editing stops with the PAUSE/STILL button.
- If there is a non-recorded section on the tape, the Insert Edit mode will be cancelled automatically and the Play mode will be engaged.
- Insert editing is not possible with non-recorded cassettes or cassettes whose safety tab has been removed.

## AUDIO DUBBING

Audio dubbing means recording a new soundtrack on a pre-recorded tape. In other words, the previously recorded sound is erased and replaced with a new soundtrack. Audio dubbing is applicable only to the longitudinal audio track (normal audio). Therefore, a dubbed narration can be heard together with the original hi-fi sound.

- 1 Load a pre-recorded cassette into the cassette loading slot.
- 2 Connect a microphone or an audio source to the MIC jack or the AUDIO IN connectors respectively.
  - With both microphone and audio source connected, mixed sound is recorded.
- 3 Press the PLAY/X2 button to start playback and then press the REW or FF button to search for the point from which

you wish to start audio dubbing.

- 4 Press the PAUSE/STILL button at the start point of audio dubbing.
- 5 Press the AUDIO DUB button.
- 6 Press the PLAY/X2 button.
  - Audio dubbing will start.

### Notes:

- It is recommended that you use a lower-impedance microphone.
- If a stereo source is connected to the AUDIO IN connectors, the mixed L and R sound is recorded.
- When the safety tab has been removed, audio dubbing cannot be performed.

## SPECIFICATIONS

### GENERAL

Format	: VHS · S-VHS standard
Tape width	: 12.65 mm (1/2 inch)
Tape speed	: 23.39 mm/s (SP)
Recording & Playback time	: 180 min. with JVC SE-180 or E-180 (SP) 360 min. with JVC SE-180 or E-180 (LP) (Playback only)
Operating temperature	: 5°C to 40°C
Operating humidity	: Less than 80% R.H.
Storage temperature	: -20°C to 60°C
Power consumption	: 30 watts
Power requirement	: AC 220-240 V ~ 50/60 Hz
Dimensions	: 435 mm(W) x 124 mm(H) x 370 mm(D) (Excluding protrusions)
Weight	: 7.5 kg
Fast forward/Rewind time	: Within 4.0 min. for 180 min. tape

### VIDEO

Recording and Playback system	: Rotary four head, helical scanning system Luminance: FM recording Colour: Down converted direct recording
Video signal system	: PAL-type colour signal/PAL-type Y/C signal
Input line video	: 0.5 ~ 2.0 Vp-p, 75 ohms, unbalanced
Y/C443	: Y: 0.8 ~ 1.2 Vp-p, 75 ohms, unbalanced C: 0.2 ~ 0.4 Vp-p, 75 ohms, unbalanced (Burst)
Output line video	: 1.0 Vp-p, 75 ohms, unbalanced
Y/C443	: Y: 1.0 Vp-p, 75 ohms, unbalanced C: 0.3 Vp-p, 75 ohms, unbalanced (Burst)
Signal-to-noise ratio	: 43 dB
Horizontal resolution	: 400 lines (S-VHS) 250 lines (VHS)

### AUDIO

Input (line)	: -8 dBs, 50 k-ohms, unbalanced (Normal, Hi-Fi)
(microphone)	: -67 dBs, high impedance
Output level (line)	: -6 dBs, 1 k-ohms, unbalanced (Normal, Hi-Fi)
Signal-to-noise ratio	: 40 dB (Normal)
Dynamic range	: 85 dB (Hi-Fi/SP)
Frequency response	: 70 to 10,000 Hz ±6 dB (Normal) 20 to 20,000 Hz ±6 dB (Hi-Fi)
Wow and flutter	: Less than 0.008% wrms (Hi-Fi)
ACCESSORIES	: Remote control unit x 1 "R6" battery x 2 Remote control cable for remote control unit x 1 Switch cover x 1

Design and specifications subject to change without notice.

# SECTION 1 DISASSEMBLY

## 1.1 EXTERNAL COVERS

### 1. Top cover

- 1) Take out four screws (A) and one screw (B) from the right, left and rear sides of the set.
- 2) Tilt up the rear end of the top cover in direction (1), then remove the top cover.

### 2. Front panel

- 1) Remove the top cover.
- 2) Carefully bend three hooks (C) of the front panel assembly from the upper side of the chassis in order to disengage the hooks from the chassis.

- 3) Pull the front panel assembly toward direction (2) to disengage three hooks (D) of the front panel assembly from the bottom of the chassis, then remove the front panel assembly.

### 3. Bottom cover

- 1) Remove the top cover.
- 2) Take out ten screws (E) from the bottom of the set, then remove the bottom cover.

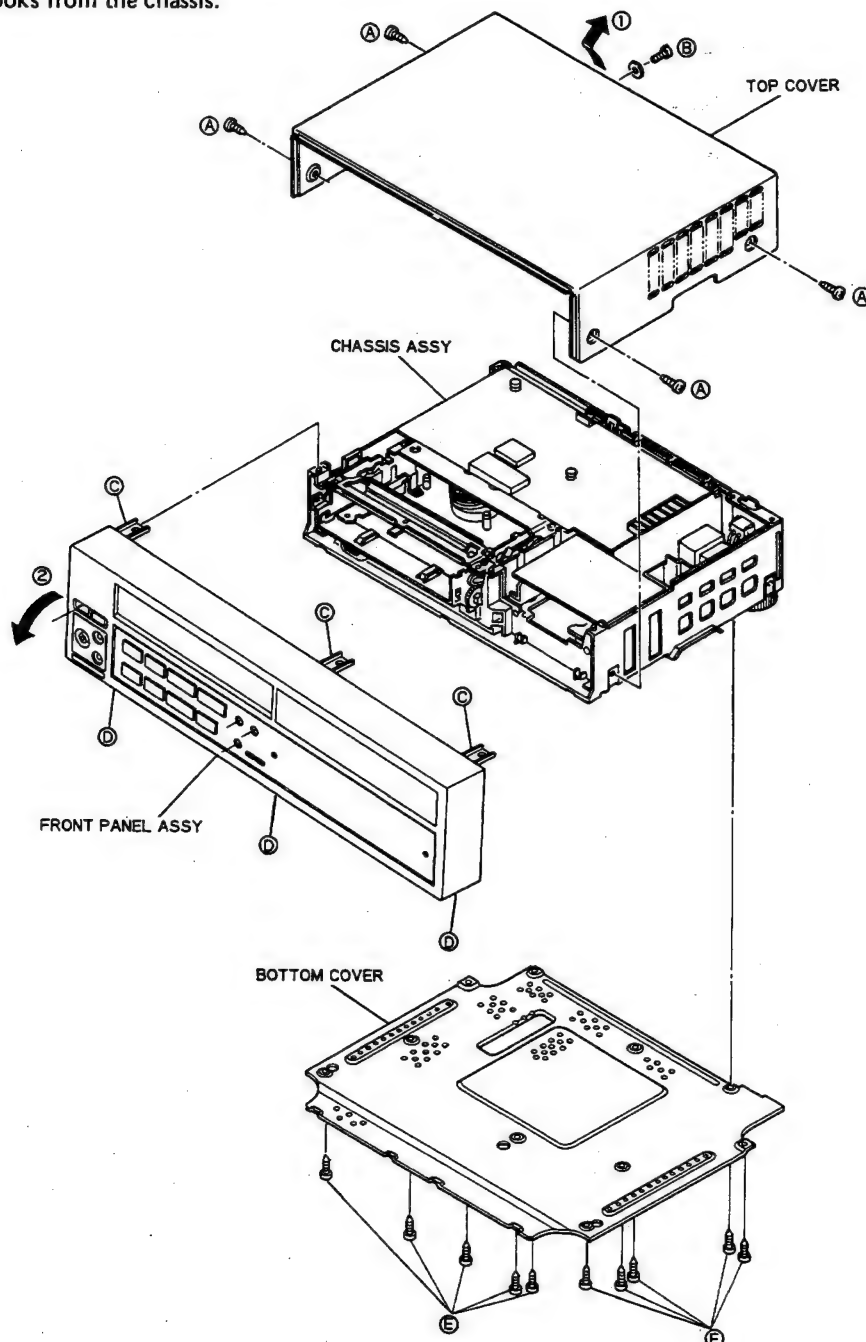


Fig. 1-1-1

## 1.2 MAIN CIRCUIT BOARDS

### 1. Video board assembly and Terminal board assembly

- 1) Take out five screws (L) and one screw (M), then raise the video board and Terminal board assemblies to remove them.

### 2. Flying Erase board assembly

- 1) Take out one screw (P) and remove the bracket.
- 2) Raise the Flying Erase board assembly to remove it.

### 3. Mechacon board assembly, AV IN/OUT board assembly and Servo board assembly

- 1) Take out three screws (Q), then remove the Mechacon board assembly, AV IN/OUT board assembly and Servo board assembly.

**Note:** Servo and AV IN/OUT board assemblies are connected to the Mechacon board assembly.

### 4. Servo Sub board assembly

- 1) Take out one screw (R) and remove the bracket.
- 2) Raise the Servo Sub board assembly to remove it.

### 5. Audio board assembly

- 1) Take out two screws (S) and remove the Audio board assembly and shield plate assembly.

### 6. Timer board assembly

- 1) Take out two screws (T) and remove the Timer board assembly.

### 7. Switching Power Supply board assembly and Regulator board assembly

- 1) Take out three screws (U) and remove the Switching Power Supply board assembly and Regulator board assembly.

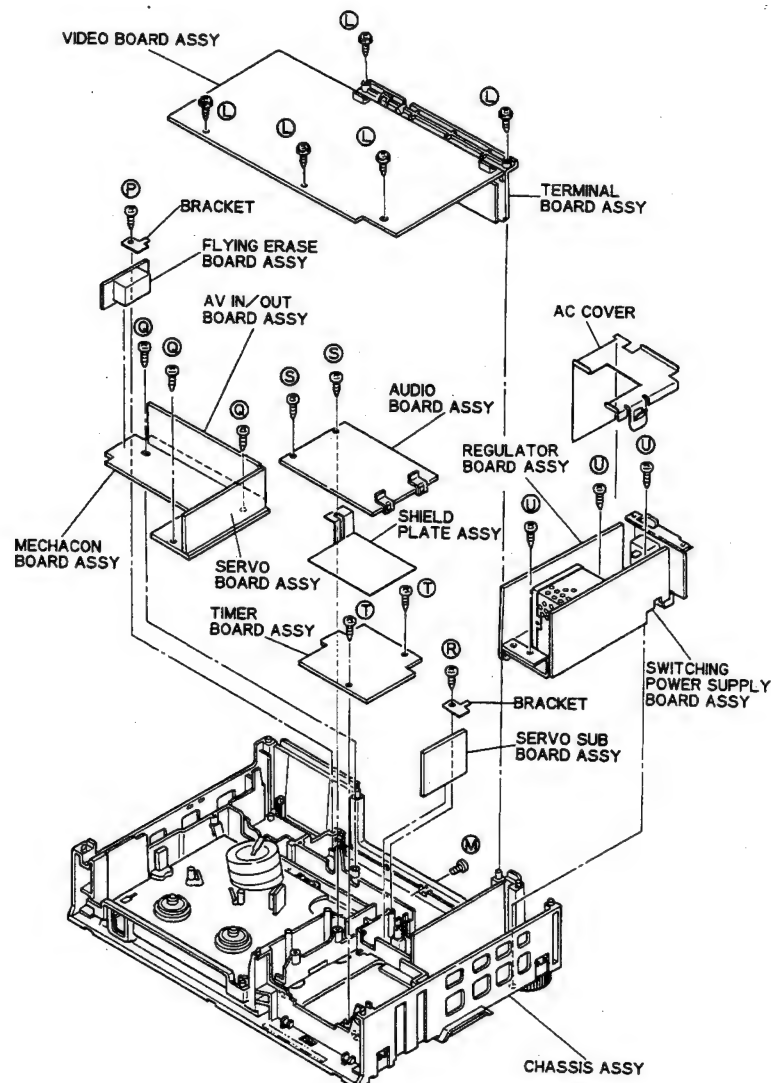


Fig. 1-2-1

## SECTION 2 MECHANISM ADJUSTMENT

### 2.1 GENERAL

#### 2.1.1 Precautions

##### IMPORTANT:

1. Disconnect unit from power before removing or soldering components.
2. When removing a fastener (screw, washer, etc.), be careful not to drop it into the mechanism. If a fastener should be dropped, be sure to retrieve it.
3. The tape transport mechanism has been precisely adjusted at the factory and ordinarily does not require readjustment.
4. When removing a part, be very careful not to damage or displace other parts. (Be especially careful with the tape guides and rotary video head drum.)
5. For service procedures that set for the Play mode when the cassette housing is separated from the main-deck, perform as below.
  - 1) Set a sheet of insulated material on the top of chassis.
  - 2) Remove the cassette housing from the main-deck and place it on the insulated sheet, but do not disconnect the housing connector.
  - 3) Cover the cassette LED on the main-deck with an opaque cover.
  - 4) The Play mode can be obtained by using the Play switch without a cassette tape.

#### 2.1.2 Required test equipment, fixtures and tools

For proper mechanical adjustment, the following test equipment, fixtures and tools are strongly recommended. Without them, a long trial-and-error period would be necessary, resulting in possible damage. In addition, general-purpose tools are required.

1. Test equipment required:
  - Color television or monitor
  - Oscilloscope: Wide-band, dual trace, triggered, delayed sweep
  - Recording tape
  - Alignment tapes

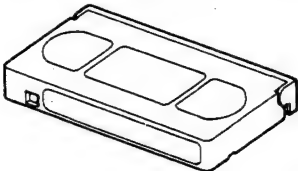
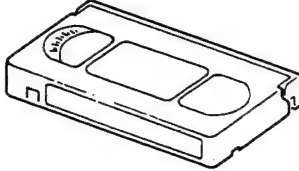
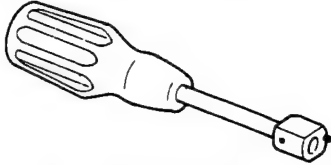
Alignment tape MHPE, MHPE-L, MH-F8	Cassette torque meter PUJ42881	A/CTL head position tool PUJ47351-2
		

Table 2-1-1 Fixtures and tools



### 2.1.3 Layout of main parts

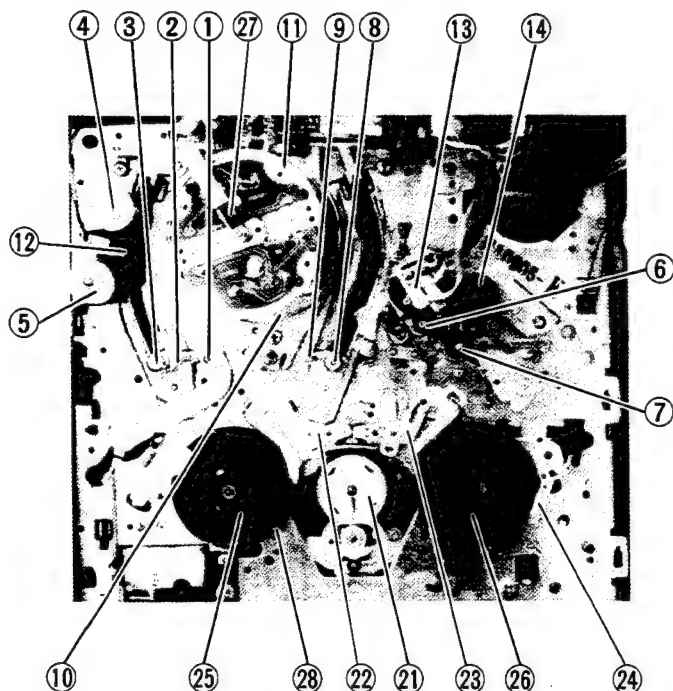


Fig. 2-1-1 Top view of main-deck



Fig. 2-1-2 Bottom view of main-deck

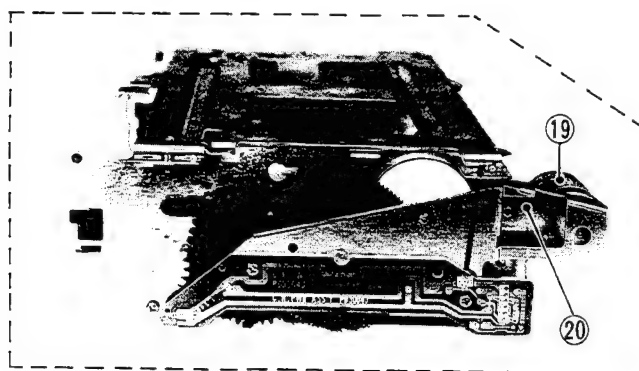


Fig. 2-1-3 Cassette housing

- |                         |                            |                        |
|-------------------------|----------------------------|------------------------|
| 1. Tension arm ass'y    | 11. Upper drum ass'y       | 21. Idler arm          |
| 2. Supply slant pole    | 12. Full erase head        | 22. Supply main brake  |
| 3. Supply guide roller  | 13. A/C head               | 23. Take-up main brake |
| 4. Roller ass'y         | 14. Pinch roller arm ass'y | 24. Take-up sub brake  |
| 5. Impedance roller     | 15. Capstan motor          | 25. Supply reel disk   |
| 6. Take-up guide pole   | 16. Reel motor             | 26. Take-up reel disk  |
| 7. Capstan shaft        | 17. Mode motor             | 27. Brush ass'y        |
| 8. Take-up guide roller | 18. Mode belt              | 28. Tension band ass'y |
| 9. Take-up slant pole   | 19. Cassette motor         |                        |
| 10. Lower drum ass'y    | 20. Cassette belt          |                        |

#### 2.1.4 Main parts replacement table

Periodic inspection and maintenance are needed in order to ensure performance and reliability. The following table has been compiled simply to give a general idea regarding maintenance and inspection. In practice, the periods indicated will vary widely according to environmental and usage

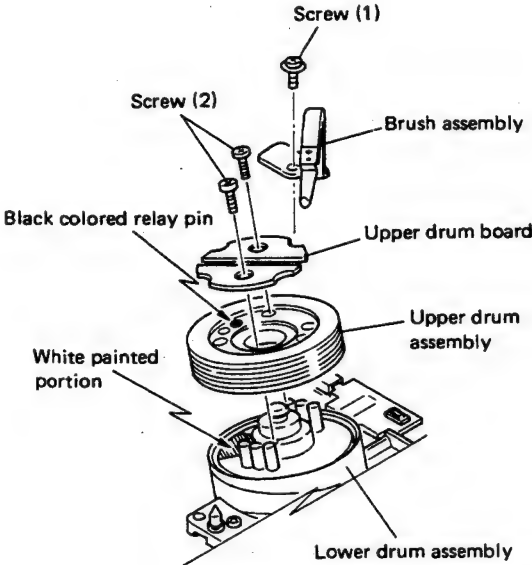
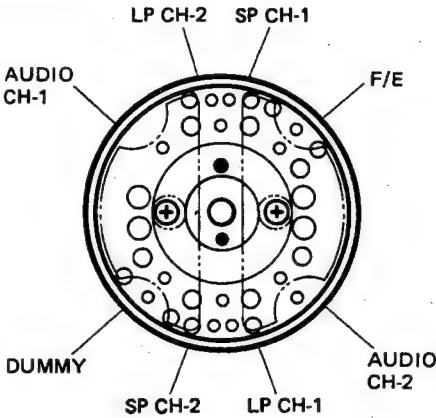
conditions. Also be aware that rubber parts may deform and age even when the equipment is not used. The upper drum life is particularly affected by environmental and usage conditions.

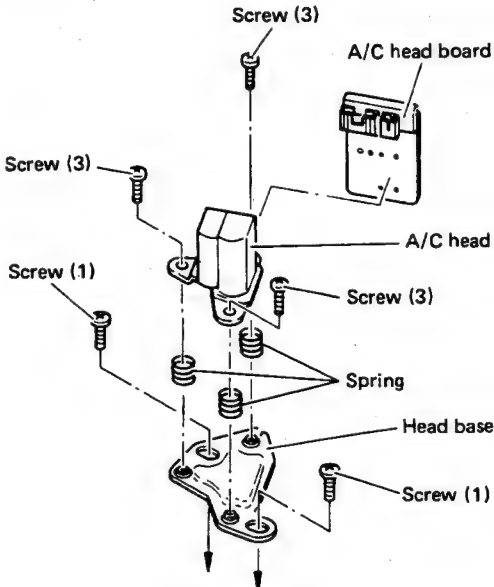
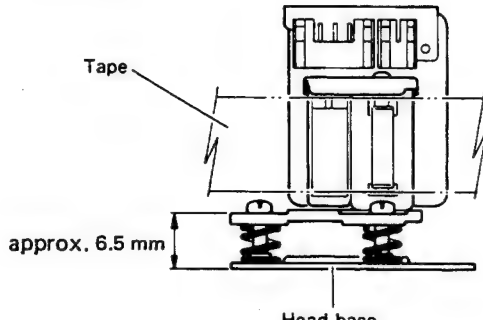
No.	Parts Name	Parts No.	Periodic servicing schedule (operating hours)								Ref. sect.	Remarks		
			1000	2000	3000	4000	5000	6000	7000	8000				
Tape transport system														
1	Tension arm ass'y	PQ41944A-7	★	★	★	○	★	★	★	●	2.2.1	Perform cleaning with finely woven cloth or gauze moistened in alcohol.  Confirm that the cleaned locations are thoroughly dry before operating the deck.  For lubrication, use sewing machine oil or good quality spindle oil.  After cleaning with alcohol, apply 1 or 2 drops of oil.		
2	Supply slanted pole	Ass'y No.	★	★	★	●	★	★	★	●				
3	Supply guide roller	PU60556-2-2	★	★	★	●	★	★	★	●				
4	Roller ass'y	PQ43298A	★	★	★	●	★	★	★	●				
5	Impedance roller	PQ41955	★	★	★	●	★	★	★	●				
6	Take-up guide pole	PU53629-3	★	★	★	○	★	★	★	●				
7	Capstan shaft	—	★	★	★	★	★	★	★	★				
8	Take-up guide roller	Ass'y No.	★	★	★	●	★	★	★	●				
9	Take-up slanted pole	PU60557-1-4	★	★	★	●	★	★	★	●				
10	Lower drum ass'y	PDM2113C	★	★	★	●	★	★	★	●				
11	Upper drum ass'y	PDM2119A	●	●	●	●	●	●	●	●				
12	Full erase head	PU60646	★	★	★	●	★	★	★	●				
13	A/C head	PU60560-2	★	★	★	●	★	★	★	●				
14	Pinch roller arm ass'y	PQ42006B	★	●	★	●	★	●	★	●				
Driving system														
15	Capstan motor	PU60201V	★	○	★	●	★	○	★	●	2.2.6			
16	Reel motor	PU59926V		●		●		●		●				
17	Mode motor	PQ41996B				○				●				
18	Mode belt	PQM30003-20		○		●		○		●				
19	Cassette motor	PQ42385A				●				●				
20	Cassette belt	PQM30003-19		○		●		○		●				
21	Idler arm	PU58645-1-4	★	●	★	●	★	●	★	●				
22	Supply main brake	PQ42019B-6		○		●		○		●				
23	Take-up main brake	PQ42020B		○		●		○		●				
24	Take-up sub brake	PQ42037A-2		○		●		○		●				
25	Supply reel disk	PU59250-1-2		△		○		△		△				
26	Take-up reel disk	PU58638-1-2		△		○		△		△				
Others														
27	Brush ass'y	PDM4015B				●				●			2.2.1	←Perform back tension check
28	Tension band ass'y	PQ41948A	○	●	○	●	○	●	○	●	2.4.1 2.2.3			

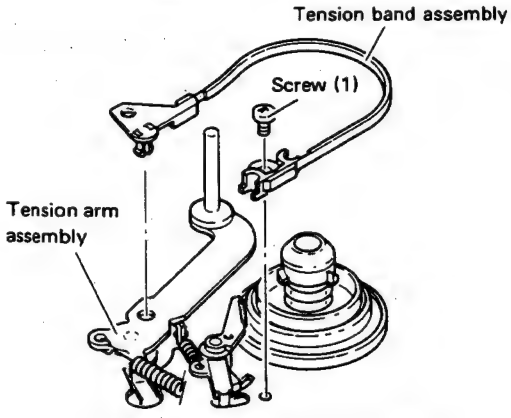
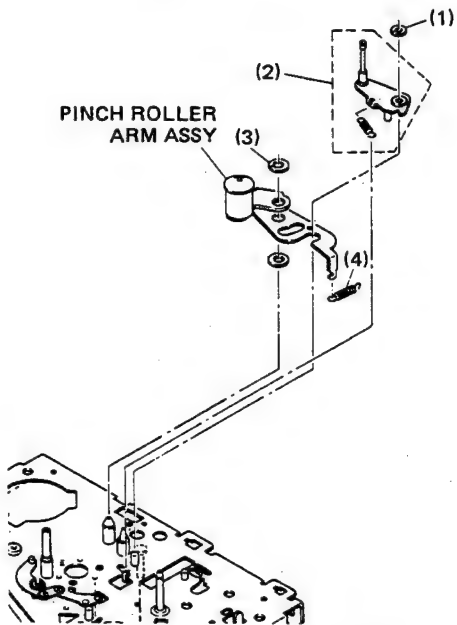
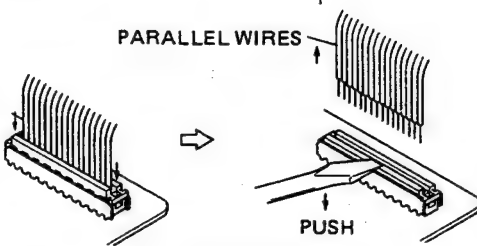
(★ = Cleaning. ○ = Check, or replace if necessary. ● = Replacement. △ = Lubricate.)

Table 2-1-2 Main parts maintenance and replacement standard

2.2 MAIN ASSEMBLY REPLACEMENT

No.	Item	Adjustment parts	Operating mode	Description
1	Upper drum assembly			<p><b>Note:</b> When installing the new upper drum, use care not to touch the video heads. If heads are soiled, clean with a soft, finely woven cotton cloth or chamois that has been moistened in alcohol. Hold lightly against the heads and turn the drum clockwise. By no means clean with a vertical stroke.</p> <p>1) Refer to Fig. 2-2-1. Take out screw (1) and remove the brush assembly.</p> <p>2) Use a desoldering tool or desoldering braid to unsolder the upper drum boards.</p> <p>3) Take out two screws (2) and raise the upper drum to remove it together with the upper drum board. (If this drum is to be re-installed, use care not to touch or damage the heads.)</p>
	<p>— Removal —</p>			
		<p>Fig. 2-2-1 Upper drum assembly</p>		
	<p>— Installation —</p>			<p>1) Refer to Fig. 2-2-1. Align the black relay pin of the new upper drum with the white marking of the lower drum.</p> <p>2) Reinsert screws (2) and tighten them in a balanced manner.</p> <p>3) Reinstall and solder the upper drum boards.</p> <p>4) Clean the drum assemblies (see above note).</p> <p>5) Reinstall the brush assembly and secure with screw (1).</p>
	<p>— Checks and adjustments —</p>			<p>After installing the upper drum, perform the following checks and adjustments (refer to appropriate Sections of this Manual).</p> <p>1) FM waveform (Section 2.6.1)</p> <p>2) Servo circuit (Section 3.4)</p> <p>3) Video circuit (Section 3.7, 3.5)</p> <p>4) FM audio circuit (Section 3.6.3)</p>

No.	Item	Adjustment parts	Operating mode	Description
2	A/C head (Audio/Control head)			
	— Removal —			
	 <p>(To main-deck)</p>			<ol style="list-style-type: none"> <li>1) Disengage connectors attached to the A/C head board.</li> <li>2) Take out two screws (1) and remove the A/C head together with the head base.</li> <li>3) Unsolder and remove the A/C head board from the A/C head.</li> <li>4) Take out three screws (3) and remove the A/C head from the head base. Use care regarding the three springs.</li> </ol>
	Fig. 2-2-2 A/C head			
	— Installation —			
				<ol style="list-style-type: none"> <li>1) Install the A/C head by reversing the removal steps of above.</li> <li>2) Temporarily set the A/C head height above the head base for 6.5 mm (see Fig. 2-2-3).</li> </ol>
	Fig. 2-2-3 A/C head height			
	— Checks and adjustments —			
				<ol style="list-style-type: none"> <li>1) Use a spare tape (not Alignment tape) and confirm proper operation of the tape transport (see Section 2.5).</li> <li>2) Perform interchangeability adjustment (see Section 2.6).</li> </ol>

No.	Item	Adjustment parts	Operating mode	Description
3	Tension band assembly	 <p>Fig. 2-2-4 Tension band assembly</p>		<p>1) Take out screw (1) and disengage the tension band assembly from the tension arm assembly (see Fig. 2-2-4).</p> <p>2) Remove and replace the tension band assembly.</p> <p>3) Perform tension pole position adjustment (see Section 2.4).</p>
4	Pinch roller arm assembly	 <p>Fig. 2-2-5 Pinch roller assembly</p>		<p>1) Take out a slit washer (1) and remove the guide arm assembly (2).</p> <p>2) Take out a slit washer (3) and the tension spring (4).</p> <p>3) Remove and replace the pinch roller arm assembly.</p> <p>4) Secure with a new slit washer (3) (PQM30017-28).</p> <p>5) Reassemble by reversing the above steps.</p>
5	PARALLEL WIRES	 <p>Fig. 2-2-6</p>		<p>1) Press the clamp as shown and remove the wires.</p>



No.	Item	Adjustment parts	Operating mode	Description
6	Reel motor and idler arm			<ol style="list-style-type: none"> <li>1) Disengage the main brake assembly first, by using pliers, pull out one to straight up to remove them.</li> <li>2) Disengage the spring (1) from the idler arm and move the idler arm in the direction of the arrow to remove it.</li> <li>3) Unsolder the wire from reel motor.</li> <li>4) Take out two screws (2) and replace the reel motor assembly.</li> <li>5) Reassemble by reversing the above steps.</li> </ol>
7	Mode motor assembly			<ol style="list-style-type: none"> <li>1) Refer to Fig. 2-2-8. Take out two screws (1) and raise the relay board assembly.</li> <li>2) Take out three screws (2) securing the cam bracket sub-assembly to the main deck.</li> <li>3) Unsolder the wire from mode motor.</li> <li>4) Take out two screws (3) and replace the mode motor assembly. Reassemble by reversing the above steps.</li> <li>5) Engage the rubber belt with the pulley.</li> </ol>

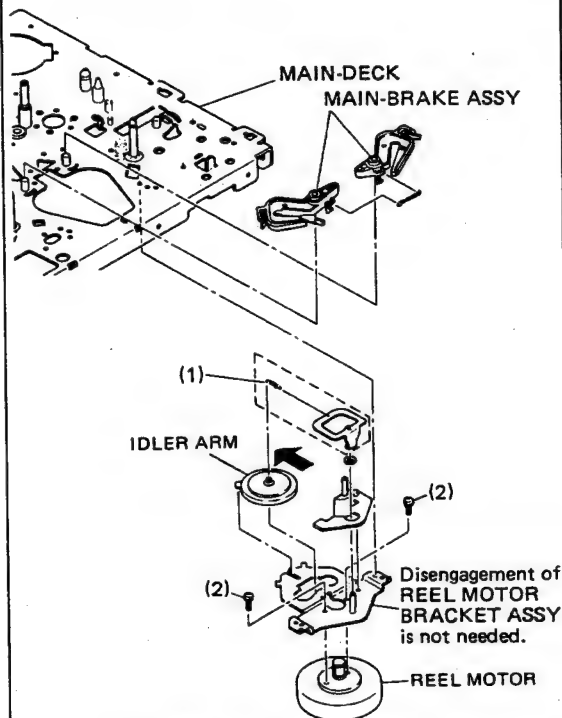


Fig. 2-2-7 Reel motor and idler arm

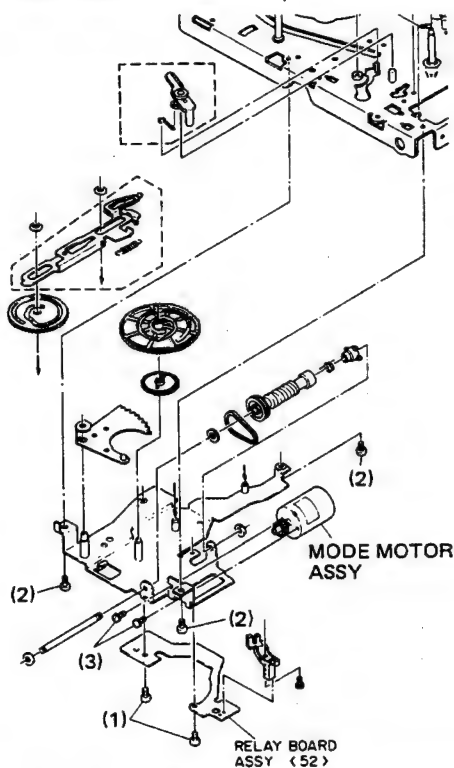
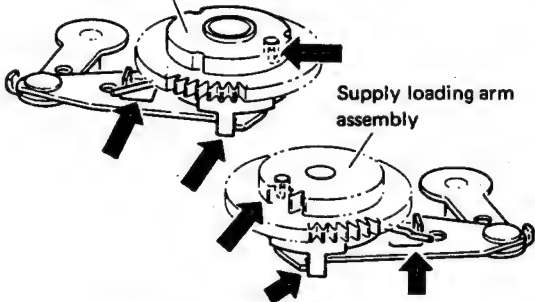
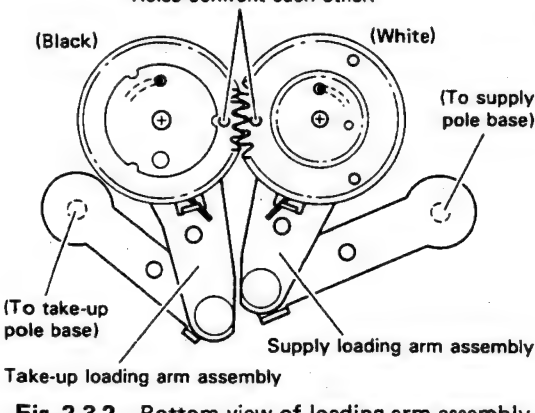
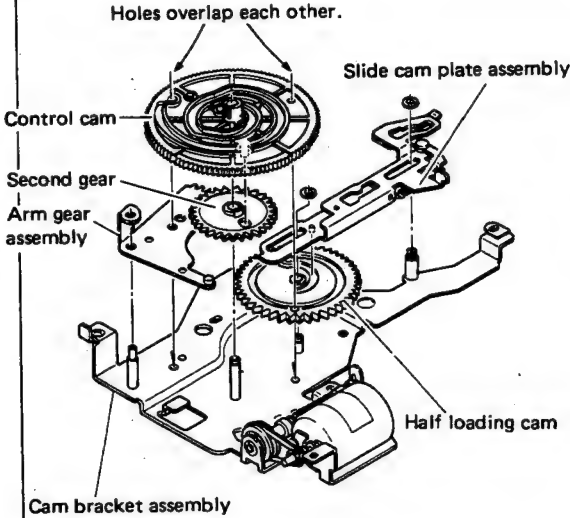
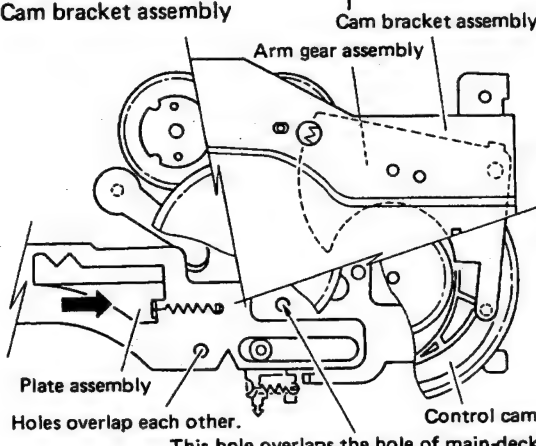
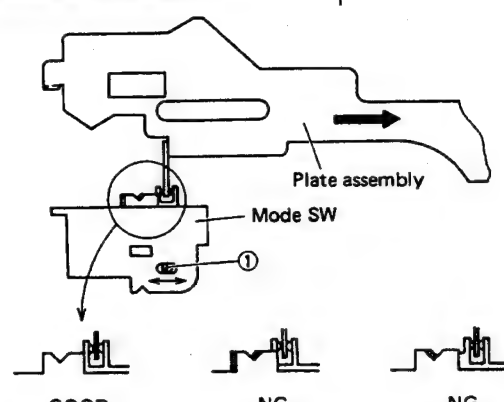


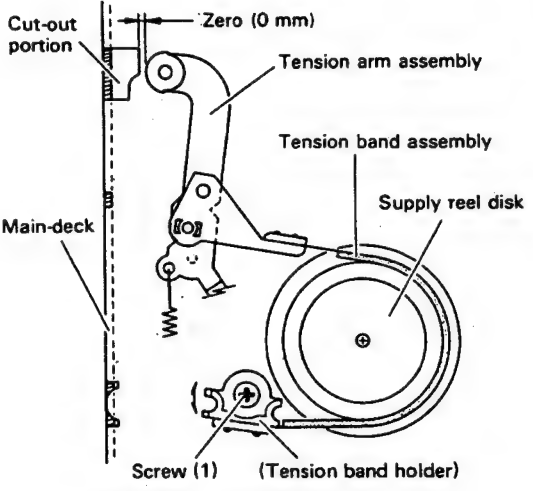
Fig. 2-2-8 Mode motor assembly

## 2.3 ASSEMBLY PROCEDURE OF MECHANISM

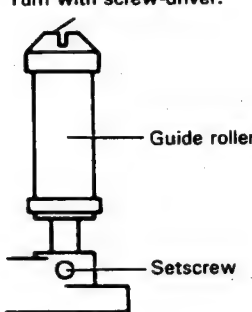
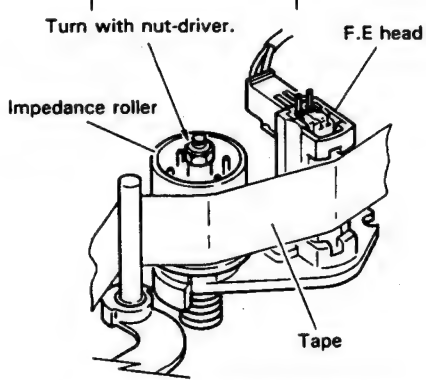
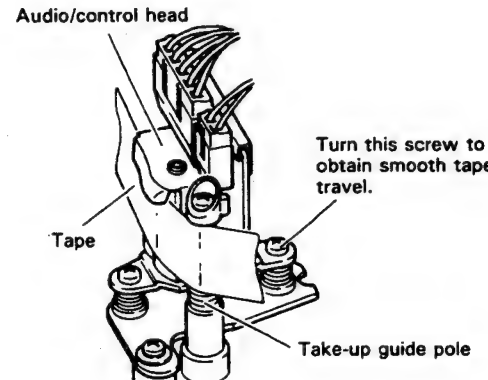
No.	Item	Adjustment parts	Operating mode	Description
	<p>A close relationship exists between the mode select switch and the mechacon circuit. Therefore, the mode select switch and control arm engagement determines the overall mechanical operations of the levers, gears, rollers, etc. If these parts are not properly positioned, the video deck becomes stalled in the unloading or Stop mode.</p>			
1	Loading arm assemblies			<p>These assemblies are comprised of loading gears, torsion springs and loading arms.</p>
				<p>1) Refer to Fig. 2-3-1 and install the loading arm assemblies correctly.</p>
	<p>Take-up loading arm assembly</p>  <p>Supply loading arm assembly</p> <p>Fig. 2-3-1 Loading arm assembly</p>			
	<p>Holes confront each other.</p>  <p>(Black)</p> <p>(White)</p> <p>(To take-up pole base)</p> <p>(To supply pole base)</p> <p>Take-up loading arm assembly</p> <p>Supply loading arm assembly</p> <p>Fig. 2-3-2 Bottom view of loading arm assembly</p>			<p>2) The take-up and supply loading arm positions with respect to the loading gear holes are indicated in Fig. 2-3-2. This configuration is important to allow shifting to the next operation.</p>

No.	Item	Adjustment parts	Operating mode	Description
2	Control cam			<ol style="list-style-type: none"> <li>1) Install the half loading cam on the cam bracket assembly, then mount the slide cam plate assembly so that its stud sets into the groove on the half loading cam.</li> <li>2) Install the arm gear assembly on the cam bracket assembly.</li> <li>3) Assemble the second gear and the control cam so that the stud of the control cam sets into the hole of the second gear.</li> <li>4) Mount the above assembly (control cam and second gear) on the cam bracket assembly to satisfy the relation indicated in figure.</li> <li>5) Do not turn the control cam from this position for the next step as shown 2.3.3 Cam bracket assembly.</li> </ol>
	 <p>Fig. 2-3-3 Control cam</p>			
3	Cam bracket assembly			<ol style="list-style-type: none"> <li>1) Refer to Fig. 2-3-4 and press the plate assembly toward the right to overlap the indicated holes with that of the main deck.</li> <li>2) Then install the cam bracket assembly.</li> </ol> <p><b>Note:</b> If the arm and loading gears do not mesh properly, use a jeweler's screwdriver or similar tool to engage the gear teeth while installing the cam bracket assembly.</p>
	 <p>Fig. 2-3-4 Cam bracket assembly</p>			
4	Mode switch position			<ol style="list-style-type: none"> <li>1) Engage the plate assembly and mode switch as shown in Fig. 2-3-5. Partially tighten screw (1) to where the switch can still be shifted for adjusting the position.</li> <li>2) Press the plate assembly toward the right to where the holes are overlapped as in Fig. 2-3-4. Insert a jeweler's screwdriver into the holes to keep them aligned.</li> <li>3) Shift the mode switch to align the V-notch as indicated in Fig. 2-3-5. Then tighten screw (1) to secure.</li> <li>4) Remove the jeweler's screwdriver, then reinstall and solder the circuit board.</li> </ol>
	 <p>Fig. 2-3-5 Mode switch</p>			

## 2.4 CONFIRMATION AND ADJUSTMENT

No.	Item	Adjustment parts	Operating mode	Description
1	Tension pole position   <p>Fig. 2-4-1 Tension pole position</p>			1) Without a cassette housing, set for the Play mode (see Section 2.1.1). 2) Refer to Fig. 2-4-1. Slightly loosen screw (1). Adjust the tension band holder position for 0 mm separation between the tension arm and cutout position. 3) Tighten screw (1) to secure the tension band holder. 4) Use the cassette torque meter and set for the Play mode. 5) Check for a scale reading between 38 and 65. 6) If outside this range, clean the tension band contacting portions of the supply reel disk with alcohol, or check the condition of the tension arm spring. If necessary, replace the tension band assembly.
2	Take-up torque			1) Use the cassette torque meter and set for the Play mode. 2) Confirm a value between 45 and 155. 3) If outside this range, clean the rubber portion of the idler arm with alcohol, if necessary, or check the reel motor drive circuit.

## 2.5 TAPE TRANSPORT CHECKS AND ADJUSTMENT PREPARATIONS

No.	Item	Adjustment parts	Operating mode	Description
	The tape transport system has been precision-adjusted at the factory and ordinarily does not require readjustment. However, adjustment may become necessary after long term usage or after replacing parts that affect the tape transport. The following steps mainly cover preparations for the interchangeability adjustments of Section 2.6.			
1	Guide roller	<p>Turn with screw-driver.</p>  <p>Fig. 2-5-1 Guide roller</p>		<p>1) During interchangeability adjustments, the guide roller is turned with a flat-blade screwdriver to adjust its height and correct FM waveform linearity. Use a metric hex key (1.25 mm) to slightly loosen the setscrew at the base of the guide roller (see Fig. 2-5-1). Loosen the setscrew just sufficiently to allow the guide roller to be turned. If too loose, tape transport will be too unstable to permit correct adjustment.</p>
2	Impedance roller	<p>Turn with nut-driver.</p>  <p>Fig. 2-5-2 Impedance roller</p>		<p>1) This compensates for tape running stability between the cassette and head drum. After adjusting the supply guide roller, the impedance roller height is adjusted for smooth tape transport at the lower flange.</p> <p>2) Use a metric nutdriver (5.5 mm) to adjust by turning the upper nut (see Fig. 2-5-2). However, note that excess turning can disturb the FM waveform stability.</p>
3	A/C head (audio/control head)	 <p>Turn this screw to obtain smooth tape travel.</p> <p>Fig. 2-5-3 A/C head</p>		<p>1) After adjusting the take-up guide roller, adjust the A/C head inclination for smooth tape travel at the lower flange of the take-up guide pole. Refer to Fig. 2-5-3.</p>

## 2.6 INTERCHANGEABILITY CHECKS AND ADJUSTMENTS

No.	Item	Adjustment parts	Operating mode	Description
	Before using costly Alignment tape, use a spare tape and confirm correct operation of the tape transport.			
1	FM waveform			<p>1) Connect an oscilloscope to TP6 of the video PRE/REC board <b>4 3</b>. Trigger the oscilloscope externally with the signal from TP11 of the video board <b>0 5</b>.</p> <p>2) Playback the MHPE Alignment tape and adjust the tracking for maximum FM waveform output. Refer to Fig. 2-6-1. Confirm the relationships indicated in the figure for maximum output (a), minimum center output (b), minimum output at the drum intake (c) and minimum output at the drum output (d).</p> <p>3) Adjustment is required if the above specifications are not fulfilled. Even when these are fulfilled, check that the FM waveform varies linearly overall. If not, slight deviation in tracking will cause a large proportional level drop to result in noise appearing in the picture. Therefore, in this condition, proceed to the following checks and perform adjustments where necessary.</p> <p>4) Operate the tracking adjustment between minimum and maximum outputs of the FM waveform. Observe the portion of the waveform corresponding to the drum intake (see Fig. 2-6-2). As the tracking is adjusted, although the gain may increase or decrease, the geometric shape of this part of the waveform should remain consistent. If the shape varies, as shown by the incorrect examples in the figure, carefully perform adjustment of the supply guide roller height.</p> <p>5) Next observe the portion of the waveform corresponding to the drum output (see Fig. 2-6-3), while operating the tracking adjustment. This should also vary only in gain, but not in shape. If the shape varies, as shown by the incorrect examples in the figure, carefully perform adjustment of the take-up guide roller height.</p> <p>6) Check the overall FM waveform. Fine-adjust both guide rollers so that variation is as minimum and linear as possible.</p> <p>7) Observe the tape travel at the guide rollers and guide poles. Confirm absence of tape creasing or curling. Confirm that the tape properly rides at the lower flange of the supply guide pole. Carefully adjust the guide pole height if necessary. This adjustment is important and affects FM waveform response. If creasing or curling is observed at the take-up guide pole, carefully adjust the audio/control head inclination so that the tape rides properly at the lower flange of the guide pole. Finally, again check the FM waveform.</p>

$$\frac{b}{a} \geq 0.8, \frac{c}{a} \geq 0.7 \text{ and } \frac{d}{a} \geq 0.7$$

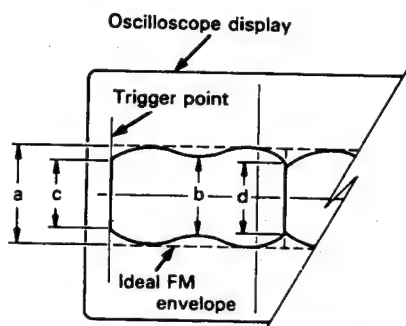


Fig. 2-6-1 FM envelope

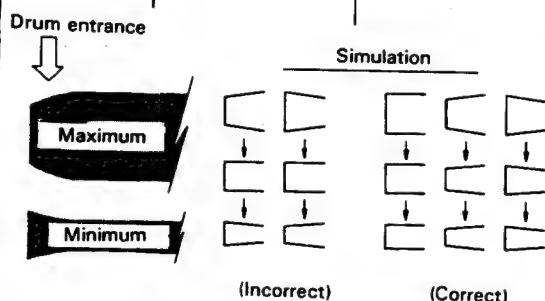


Fig. 2-6-2 Drum entrance

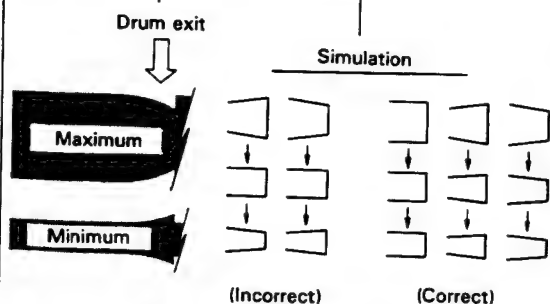
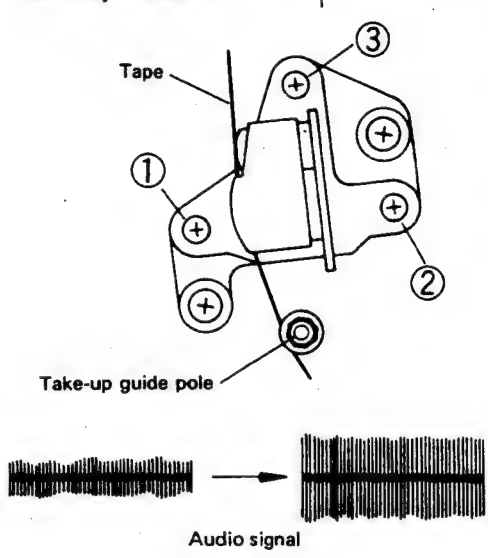
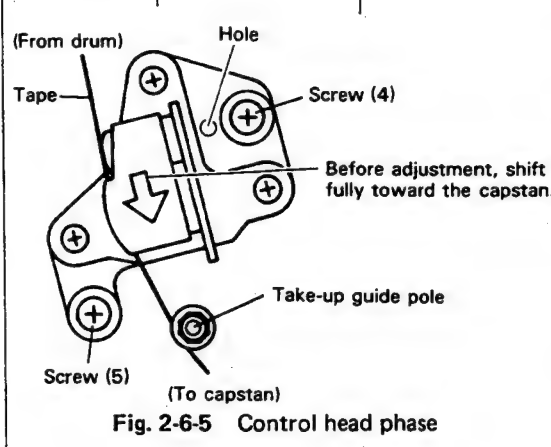


Fig. 2-6-3 Drum exit

No.	Item	Adjustment parts	Operating mode	Description
				<p>Proper adjustment of the A/C head position is important for ensuring adequate audio output and S/N. Severe misalignment can prevent control signal pick-up and cause servo instability. Precise adjustment is particularly important for models that include tape indexing and addressing features, since these rely on control signal coding for operation. To observe the audio signal, connect an oscilloscope to the test point (AUDIO OUT) of the audio circuit, or directly to the audio output terminal. In some cases, monitoring the sound with headphones may be helpful.</p>
2	A/C head adjustments	 <p>Fig. 2-6-4 A/C head</p>		<ol style="list-style-type: none"> <li>1) Playback the MHPE Alignment tape.</li> <li>2) Adjust screw (3) (Fig. 2-6-4), which is the azimuth adjustment, for maximum output.</li> <li>3) Turn screws (1), (2) and (3) by small and equal increments (about 45° at a time) to adjust the A/C head height for maximum audio output. Slightly raise and lower the height to confirm the maximum output position.</li> <li>4) Observe the FM waveform and tighten the guide roller set-screws. Use care not to disturb the height adjustments. Then again confirm the FM waveform is not affected.</li> </ol>
3	Control head phase (X value)	 <p>Fig. 2-6-5 Control head phase</p>		<ol style="list-style-type: none"> <li>1) Playback the MHPE Alignment tape.</li> <li>2) See Fig. 2-6-5. Slightly loosen screws (4) and (5). Set the A/C head positioning tool over screw (4) with the pin of the tool inserted into the indicated hole.</li> <li>3) Turn the tool counterclockwise to shift the A/C head fully toward the capstan direction.</li> <li>4) While observing the CH-1 FM waveform, gradually turn the tool clockwise. Stop at the peak output position and tighten screw (5). Remove the tool and tighten screw (4).</li> <li>5) Play back the MHPE-L Alignment tape.</li> <li>6) Operate the tracking adjustment and confirm that the maximum FM waveform is obtained at the neutral setting.</li> <li>7) If the FM output peak is not obtained at tracking neutral position, shift the A/C head at the FM output peak nearest to this position.</li> </ol>



No.	Item	Adjustment parts	Operating mode	Description
4	Final checks			<ol style="list-style-type: none"> <li>1) Supply a video signal (monochrome is preferable). Use a spare tape and record and play back. Confirm that the playback FM signal conforms to the parameters indicated in Fig. 2-6-1.</li> <li>2) Connect the oscilloscope to TP53 (FM OUT) of the audio board [0] [9] . Play the stairstep portion (which includes the FM audio carrier) of the MH-F8 Alignment tape. Confirm absence of severe drop in FM waveform level.</li> <li>3) Perform the checks and, if necessary adjustments, of the Electrical Adjustments Section for the servo, video and audio (and FM audio) circuits.</li> </ol>

## SECTION 3 ELECTRICAL ADJUSTMENTS

### 3.1 PREPARATION

Electrical adjustments are required after replacing circuit components and certain mechanical parts.

It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

#### 3.1.1 Required test equipment

1. Color television or monitor
2. Oscilloscope: wide-band, dual-trace, triggered delayed sweep
3. Frequency counter
4. Audio tester
5. Digital voltmeter
6. Signal generator: PAL color bar, staircase, video sweeper
7. Recording tape
8. Alignment tape: MHPE, MH-2H, MBVE-3H, MH-8
9. Patch cord: PTU94001  
(PRE/REC board to CONNECTOR board)
10. Extension cable: PTU93004A  
(AV IN OUT board to MECHACON board)  
(SERVO board to MECHACON board)
11. Head resonance adjust coil: PTU94004A
12. RF sweep signal generator (100 kHz – 10 MHz)

#### 3.1.2 Check and adjustment steps

The check and adjustment steps are provided in the following in the form of charts. For clarity, the nomenclature used in the charts is outlined below.

<b>No.</b>	Checks and adjustments are numbered in the recommended sequence in which they are to be performed.
<b>Item</b>	Name assigned to the particular check and adjustment step.
<b>Check Point</b>	Location to which measuring instrument (oscilloscope unless otherwise noted) is to be connected.
<b>Adjustment Parts</b>	Variable component (resistor, capacitor, etc.) to be adjusted in this step. Dash (—) indicates check only.
<b>Signal &amp; Mode</b>	<ul style="list-style-type: none"> <li>• Input signal required to perform adjustment. Dash (—) indicates that special signal is not required.</li> <li>• Equipment operating mode at time of check or adjustment.</li> </ul>

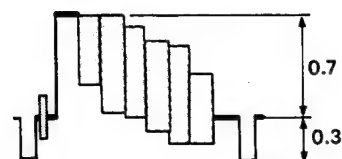
Color bar	Color bar signal as video input.
Stairstep	Stairstep signal as video input.
1 kHz	1 kHz sinewave as audio input signal.
E-E	Power on and machine in Stop mode.
REC	Recording mode
PB	Playback mode
SLOW	Slow motion playback mode
STILL	Pause during playback mode
S-VHS mode (S mode)	Super-VHS mode
N-VHS mode (N mode)	Normal-VHS mode

**Description** This column provides an explanation of the step, notes and adjustment values.

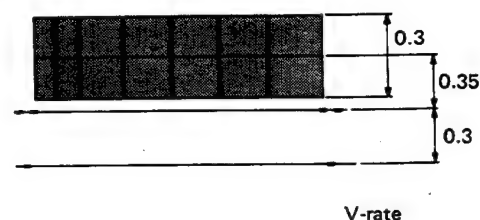
**Note:** Unless otherwise noted, supply a VIDEO signal to LINE IN (BNC connector), and set the INPUT SW to LINE.

#### 3.1.3 Required test signal

- EBU 100% colour bars



- Video sweep (100 kHz – 5 MHz)



- Sweep



### 3.1.4 Alignment tape specifications

#### • MH-8

No.	PB time	Video signal	Audio signal	Description
1	2 min.	Color sweep	400 Hz (−10 dB)	for check and adjustment of frequency characteristic in video PB circuits
2	2 min.	"	100 Hz (−10 dB)	
3	2 min.	"	8 kHz (−10 dB)	for check and adjustment of frequency characteristic in audio PB circuits (Markers: 100 K, 1M, 2M, 4.43 MHz)
4	4 min.	"	—	

#### • MH-2H

No.	PB time	Video signal	Audio signal	Description
1	5 min.	Color bars S-VHS SP mode	None	for check and adjustment of PB circuits in S-VHS SP mode
2	5 min.	Color bars S-VHS LP mode	None	for check and adjustment of PB circuits in S-VHS LP mode

#### • MHPE

Video signal	Audio signal	Description	
VHS SP mode Stairstep	6 kHz	for check and adjustment of interchangeability for check and adjustment of the servo circuit for adjustment of audio head azimuth	Usable in place of MH-2 stairstep

#### • MBVE-3H (Handled by Service Engineering Section)

Video signal	Audio signal	Description
S-VHS SP mode Video sweep	—	for check and adjustment of video frequency response (Markers: 1M, 2M, 3M, 4M, 4.43 MHz)

### 3.1.5 Switches setting

- Unless otherwise noted, perform checks and adjustments with switches being initialized as shown below.

MODE LOCK : OFF  
 EDIT : OFF  
 REPEAT : OFF  
 LEVEL INDICATOR : ON  
 INPUT : LINE  
 Hi-Fi REC LEVEL : AUTO  
 AUDIO OUT to : Hi-Fi

- When any of the above switch was set to another position, make sure to return it to the initial setting every time adjustment/check of an item completed.

### 3.2 SWITCHING REGULATOR CIRCUIT

No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description
1	5 V DC output voltage	TP1 TP-GND SW. REG. 0 2	R26 SW. REG 0 2	• REC	1) Connect a digital voltmeter between TP1 and TP-GND. 2) Set to the REC mode, and adjust R26 for $5.345 \pm 0.05$ V.
			TP1 5.345 $\pm$ 0.05 V 0R26		
2	Semi-REG 15 V output voltage	CN1 pin 7 SWITCHING 0 1	R9 SWITCHING 0 1	• REC	1) Connect a digital voltmeter between pin 7 of CN1 and TP-GND. 2) Set to the REC mode, and adjust R9 for $15.2 \pm 0.2$ V.
			15.2 $\pm$ 0.2 V 0R9		

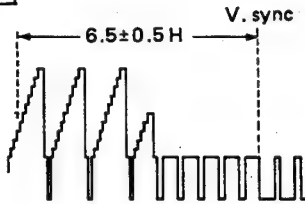
### 3.3 TIMER CIRCUIT

**Note:** Unless otherwise noted, all test points and adjustments are located on the TIMER board 2 0 .

No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description
1	Timer clock	TP2 TP1 (GND)	C10	• E-E	1) Connect a frequency counter between TP2 and GND. 2) Short between TP3 (TEST) and GND, then short the leads of electrolytic capacitor C8 once in order to reset IC1. 3) Adjust C10 for $2048.000 \pm 0.002$ Hz (488.2808 to 488.2818 $\mu$ s).
			TP2 2048. $\pm$ 0.002 Hz 0C10		

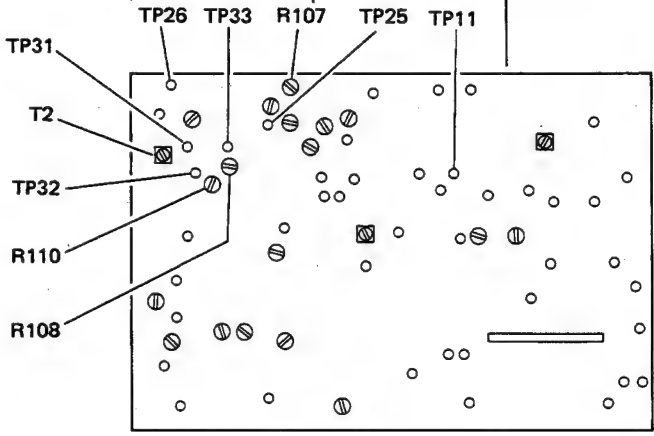
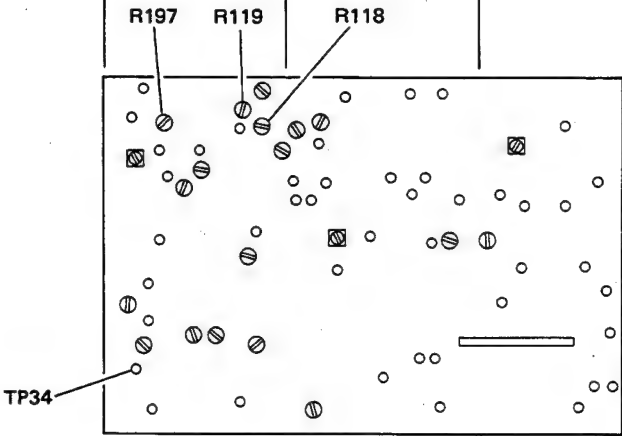
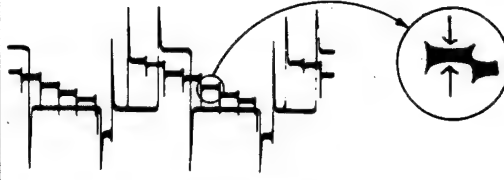
### 3.4 SERVO CIRCUIT

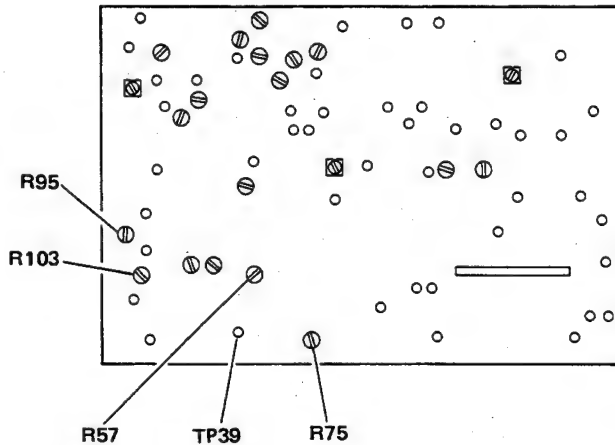

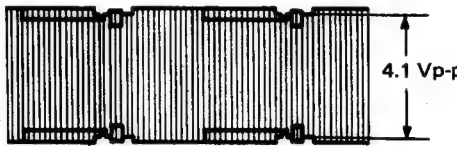
**Note:** Unless otherwise noted, all test points and adjustments are located on the SERVO board [4] [8].

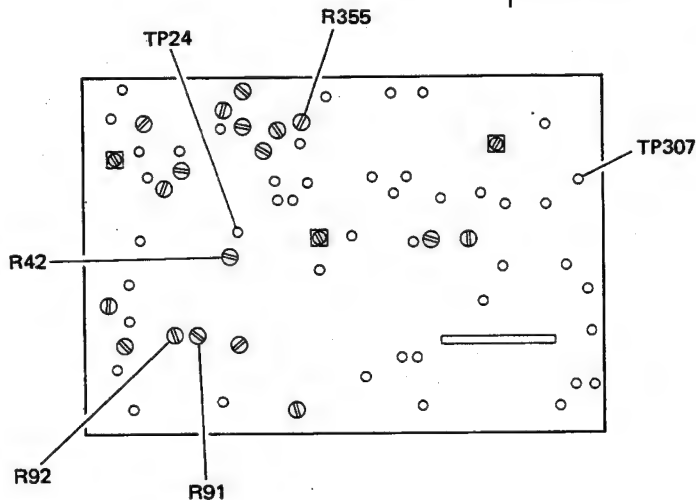
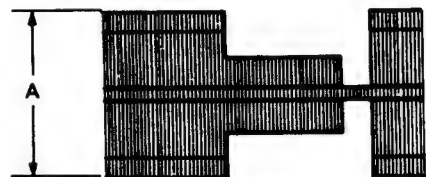
No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description
1	PB switching point	VIDEO OUT	R32 (SW POINT)	<ul style="list-style-type: none"><li>• PB</li><li>• MHPE</li><li>• Trigger slope (—)</li></ul>	<div>1) Connect an oscilloscope to the VIDEO OUT.</div> <div>2) Play back the MHPE alignment tape.</div> <div>3) Trigger the oscilloscope externally (— slope) with the signal from TP11 of the VIDEO board 0 5 .</div> <div>4) Adjust R32 to position the trigger point <math>6.5 \pm 0.5H</math> from V. sync.</div>
		<table><tr><td>SW. point</td><td><math>6.5 \pm 0.5H</math></td><td>⊙R32</td></tr></table> <div></div>	SW. point	$6.5 \pm 0.5H$	
SW. point	$6.5 \pm 0.5H$	⊙R32			
2	SP slow tracking preset	Monitor	R55 (SP SLOW)	<ul style="list-style-type: none"><li>• S-VHS mode</li><li>• REC</li><li>↓</li><li>• Slow PB (1/6)</li><li>• Color bar</li></ul>	<div>1) Set the TRACKING control of the FRONT panel to the preset position by simultaneously pressing the + and — TRACKING buttons.</div> <div>2) Record a color bar signal, then play back in the Slow mode (press the “&lt;&lt;” variable search button of the remote controller).</div> <div>3) Adjust R55 to minimize noise bars on the video monitor screen.</div>
	LP slow tracking preset	Monitor	R59 (LP SLOW)	<ul style="list-style-type: none"><li>• MH-2H</li><li>• Slow PB (1/6)</li></ul>	<div>1) Play back the LP segment of MH-2H in the slow mode.</div> <div>2) Adjust R59 to minimize noise bars on the video monitor screen.</div>
3	SP X2 normal tracking preset	Monitor	R38 (SP X2)	<ul style="list-style-type: none"><li>• S-VHS mode</li><li>• REC</li><li>↓</li><li>• X2 Play</li><li>• Color bar</li></ul>	<div>1) Set the TRACKING control of the FRONT panel to the preset position by simultaneously pressing the + and — TRACKING buttons.</div> <div>2) Record a color bar signal, then play back in the 2X Play mode.</div> <div>3) Adjust R38 to minimize noise bars on the video monitor screen.</div>
	LP X2 normal tracking preset	Monitor	R36 (LP X2)	<ul style="list-style-type: none"><li>• MH-2H</li><li>• X2 Play</li></ul>	<div>1) Play back the LP segment of MH-2H in the 2X Play mode.</div> <div>2) Adjust R36 to minimize noise bars on the video monitor screen.</div>
4	V. pulse position	Monitor	R11 (V. LOCK) [REAR panel]	<ul style="list-style-type: none"><li>• REC then PB</li><li>↓</li><li>• STILL</li><li>• Color bar</li></ul>	<div>1) Record a color bar signal, then play back.</div> <div>2) In the Still mode, observe the monitor and adjust R11 (REAR panel) for the minimum vertical jitter.</div>

### 3.5 VIDEO CIRCUIT

**Note:** Unless otherwise noted, all test points and adjustments are located on the VIDEO board 0 5.

No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description
1	Y comb level	TP25 TP26	R107	<ul style="list-style-type: none"> <li>• S-VHS mode</li> <li>• E-E</li> <li>• Color bar</li> </ul>	<p>1) Connect one channel of a dual trace oscilloscope to TP25 and the other channel to TP26.</p> <p>2) Set the oscilloscope for ALT mode.</p> <p>3) Adjust R107 for equal channel levels.</p>
					<div style="border: 1px solid black; padding: 2px; display: inline-block;">TP25 = TP26    R107</div>
2	2H delayed chroma	TP31 TP32	R110 T2	<ul style="list-style-type: none"> <li>• S-VHS mode</li> <li>• E-E</li> <li>• Color bar</li> </ul>	<p>1) Connect CH-1 of a dual trace oscilloscope to TP31 and CH-2 to TP32.</p> <p>2) Set VOLT/DIV controls of both channels to the same range (e.g., 50 mV).</p> <p>3) Invert CH-2 and use ADD mode.</p> <p>4) Alternately adjust R110 and T2 for minimum level.</p>
3	4H delayed chroma	TP31 TP33	R108 T2	<ul style="list-style-type: none"> <li>• S-VHS mode</li> <li>• E-E</li> <li>• Color bar</li> </ul>	<p>1) In the same manner as above (3.5.2), adjust R108 and T2 for minimum level.</p>
4	Y-comb	TP34	R119 R118 R197	<ul style="list-style-type: none"> <li>• N-VHS mode</li> <li>• E-E</li> <li>• Color bar</li> </ul>	<p>1) Connect an oscilloscope to TP34.</p> <p>2) Adjust R118, R119 and R197 alternately for minimum chromatic level (less than 40 mVp-p of the magenta portion).</p>
					 <p style="text-align: center;">Fig. 3-5-1</p>

No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description			
5	E-E level	VIDEO OUT	R75	<ul style="list-style-type: none"><li>• S-VHS mode</li><li>• E-E</li><li>• Color bar</li></ul>	<div>1) Connect an oscilloscope to the VIDEO OUT.</div> <div>2) Adjust R75 for <math>0.97 \pm 0.03</math> Vp-p (with <math>75 \Omega</math> load).</div> <div></div> <div><table><tr><td>E-E level</td><td><math>0.97 \pm 0.03</math> Vp-p</td><td>○R75</td></tr></table></div>	E-E level	$0.97 \pm 0.03$ Vp-p	○R75
E-E level	$0.97 \pm 0.03$ Vp-p	○R75						
6	Sub empha. input level	TP39	R57	<ul style="list-style-type: none"><li>• S-VHS mode</li><li>• E-E</li><li>• Color bar</li></ul>	<div>1) Connect an oscilloscope to TP39.</div> <div>2) Adjust R57 for <math>400 \pm 20</math> mVp-p signal level.</div> <div><table><tr><td>TP39</td><td><math>400 \pm 20</math> mVp-p</td><td>○R57</td></tr></table><div></div><div>Fig. 3-5-2</div></div>	TP39	$400 \pm 20$ mVp-p	○R57
TP39	$400 \pm 20$ mVp-p	○R57						
7	S mode REC FM level	TP1 (PRE/REC) ④ ③	R103 (S-MODE REC FM)	<ul style="list-style-type: none"><li>• S-VHS mode</li><li>• REC</li><li>• Color bar</li></ul>	<div>Note: Connect an oscilloscope's GND terminal to TP-GND near the shield case of the PRE/REC board.</div> <div>1) Connect an oscilloscope to TP1 of the PRE/REC board and record a color bar signal.</div> <div>2) Adjust R103 for <math>4.1 \pm 0.1</math> Vp-p pedestal level, between centers of the waveform outline at the pedestal portion.</div> <div><table><tr><td>TP1 ④ ③</td><td><math>4.1</math> Vp-p</td><td>○R103</td></tr></table><div></div><div>Fig. 3-5-3</div></div>	TP1 ④ ③	$4.1$ Vp-p	○R103
TP1 ④ ③	$4.1$ Vp-p	○R103						
8	N mode REC FM level	TP1 (PRE/REC) ④ ③	R95 (N-MODE REC FM)	<ul style="list-style-type: none"><li>• N-VHS mode</li><li>• REC</li><li>• Color bar</li></ul>	<div>1) In the same manner as above (3.5.7), adjust R95 for <math>2.4 \pm 0.1</math> Vp-p pedestal level.</div> <div><table><tr><td>TP1 ④ ③</td><td><math>2.4</math> Vp-p</td><td>○R95</td></tr></table></div>	TP1 ④ ③	$2.4$ Vp-p	○R95
TP1 ④ ③	$2.4$ Vp-p	○R95						

No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description			
9	REC color level and balance	TP307	R355	<ul style="list-style-type: none"><li>•S-VHS mode</li><li>•PB</li><li>•MH-2H</li><li>•REC then PB</li><li>•Color bar</li></ul>	<p><b>Note:</b> Use larger-level waveform for adjustment.</p> <ol style="list-style-type: none"><li>1) Connect an oscilloscope to TP307. Play back the SP segment of the MH-2H and observe color signal level.</li><li>2) Adjust by pressing the + and – TRACKING buttons of the FRONT panel for maximum level of the color waveform and make a note of the higher color level "A".</li><li>3) Set the TRACKING control of the FRONT panel to the preset position by simultaneously pressing the + and – TRACKING buttons.</li><li>4) Record and play back a color bar signal. If necessary, before recording, adjust R355 so that the higher level channel becomes 110% of the noted level "A" during playback. At this time, confirm that the channel difference is within 3 dB.</li></ol>			
					 <p>Fig. 3-5-4</p>			
10	N mode PB Y level	VIDEO OUT	R91 (N-MODE PB Y LEVEL)	<ul style="list-style-type: none"><li>•N-VHS mode</li><li>•REC then PB</li><li>•Color bar</li></ul>	<ol style="list-style-type: none"><li>1) Connect an oscilloscope to the VIDEO OUT.</li><li>2) Record a color bar signal, then play it back.</li><li>3) Adjust R91 for <math>0.97 \pm 0.03</math> Vp-p (with 75Ω load).</li></ol>			
		<table border="1"><tr><td>Y level</td><td><math>0.97 \pm 0.03</math> Vp-p</td><td>ØR91</td></tr></table>		Y level	$0.97 \pm 0.03$ Vp-p	ØR91		
Y level	$0.97 \pm 0.03$ Vp-p	ØR91						
11	S mode PB Y level	VIDEO OUT	R92 (S-MODE PB Y LEVEL)	<ul style="list-style-type: none"><li>•S-VHS mode</li><li>•REC then PB</li><li>•Color bar</li></ul>	<ol style="list-style-type: none"><li>1) In the same manner as above (3.5.10), adjust R92 for <math>0.97 \pm 0.03</math> Vp-p (with 75Ω load).</li></ol>			
		<table border="1"><tr><td>Y level</td><td><math>0.97 \pm 0.03</math> Vp-p</td><td>ØR92</td></tr></table>		Y level	$0.97 \pm 0.03$ Vp-p	ØR92		
Y level	$0.97 \pm 0.03$ Vp-p	ØR92						
12	Sharpness preset	TP24	R42	<ul style="list-style-type: none"><li>•S-VHS mode</li><li>•E-E</li><li>•Sweeper</li></ul>	<ol style="list-style-type: none"><li>1) Connect an oscilloscope to TP24.</li><li>2) Adjust R42 so that the 2 MHz mark, in the state of EDIT SW "OFF", becomes nearly equal to that in the state of EDIT SW "ON".</li></ol>			



No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description
13	S mode frequency response and balance	TP110	R108 [PRE/REC PWB] ④ ③	<ul style="list-style-type: none"> <li>•S-VHS mode</li> <li>•MBVE-3H</li> <li>•PB</li> </ul>	<p>1) Play back the MBVE-3H alignment tape and adjust by pressing + and - TRACKING buttons for maximum FM level at TP6 (PRE/REC board).</p> <p>2) Set 100 kHz level to 4 scale div. on the oscilloscope screen.</p> <p>3) Adjust R108 (PRE/REC board) so that the 3.0 MHz level becomes from 3.4 to 3.8 scale divisions (<math>-1 \pm 0.5</math> dB).</p> <p>4) Confirm that the level difference between both channels is less than 2 dB.</p> <p><b>Note:</b>Contact JVC regarding the MBVE-3H alignment tape.</p>
					<div data-bbox="232 459 787 504" data-label="Text"> <p>freq. response    <math>-1 \pm 0.5</math> dB    <math>\odot</math>R108 (PRE/REC)</p> </div> <div data-bbox="191 672 843 1034" data-label="Figure"> </div> <div data-bbox="972 772 1340 1041" data-label="Figure"> </div> <div data-bbox="1097 1070 1207 1102" data-label="Caption"> <p>Fig. 3-5-5</p> </div>
14	N mode frequency response and balance	TP110	R130 [PRE/REC PWB] ④ ③	<ul style="list-style-type: none"> <li>•N-VHS mode</li> <li>•MH-8</li> <li>•PB</li> </ul>	<p>1) Play back the MH-8 alignment tape and adjust by pressing + and - TRACKING buttons for maximum FM level at TP6 (PRE/REC board).</p> <p>2) Set 100 kHz level to 4 scale div. on the oscilloscope screen.</p> <p>3) Adjust R130 (PRE/REC board) so that the 2.0 MHz level becomes from 3.4 to 3.8 scale divisions (<math>-1 \pm 0.5</math> dB).</p> <p>4) Confirm that the level difference between both channels is less than 2 dB.</p>
					<div data-bbox="232 1496 787 1541" data-label="Text"> <p>freq. response    <math>-1 \pm 0.5</math> dB    <math>\odot</math>R130 (PRE/REC)</p> </div> <div data-bbox="1011 1646 1324 1960" data-label="Figure"> </div> <div data-bbox="1081 1982 1199 2016" data-label="Caption"> <p>Fig. 3-5-6</p> </div>

No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description
15	0.5H delayed color level	TP110	R9 (incl. IC6)	<ul style="list-style-type: none"> <li>•MH-2H</li> <li>•STILL</li> </ul>	<p>1) Connect an oscilloscope to Y OUT or TP110.</p> <p>2) Play back the LP segment of alignment tape MH-2H.</p> <p>3) Set to the STILL mode, adjust R9 so that Y level is equal.</p> <p>Fig. 3-5-7</p>
16	APC error phase	TP305 TP328	T301	<ul style="list-style-type: none"> <li>•REC then PB</li> <li>•Color bar</li> </ul>	<p>1) Connect one channel of a dual trace oscilloscope to TP305 and the other channel to TP328. Trigger the oscilloscope externally (— slope) with the signal from TP12 (H. SYNC).</p> <p>2) Adjust T301 to position the zero-cross 30 <math>\mu</math>-sec <math>\pm</math> 3 <math>\mu</math>sec from the center of the burst signal as shown in the figure.</p> <p>Fig. 3-5-8</p>
17	0.25H delayed VIDEO	TP36 TP37	R163 R27	<ul style="list-style-type: none"> <li>•E-E</li> <li>•Color bar</li> </ul>	<p>1) Connect one channel of a dual-trace oscilloscope to TP36 and the other channel to TP37.</p> <p>2) Adjust R163 for maximum output level at TP36.</p> <p>3) Set the oscilloscope for ALT mode.</p> <p>4) Adjust R27 for equal channel levels.</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 10px auto;">TP36 = TP37 <math>\odot</math> R27</div>

### 3.6 AUDIO CIRCUIT

Note: Unless otherwise noted, all test points and adjustments are located on the AUDIO board 09.

No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description
1	Audio bias level	TP31 TP32 (GND)	R9 (BIAS ADJ)	<ul style="list-style-type: none"> <li>• N-VHS mode</li> <li>• No signal</li> <li>• REC</li> </ul>	1) Connect a millivoltmeter between TP31 and TP32. 2) Set for REC mode without signal. 3) Adjust R9 for 2.2 mVrms.
		Bias level	2.2 mVrms	ØR9	
2	Audio PB level	AUDIO OUT	R28 (PB LEVEL ADJ)	<ul style="list-style-type: none"> <li>• 1 kHz, -8 dBs</li> <li>• N-VHS mode</li> <li>• REC then PB</li> <li>• AUDIO OUT to NORMAL</li> </ul>	1) Connect an audio tester to AUDIO OUT. 2) Supply an audio signal (-8 dBs/1 kHz) to AUDIO IN and record together with a video signal, then play back. 3) Adjust R28 so that the audio output level during palyback becomes $-6 \pm 1$ dBs.
		PB level	$-6 \pm 1$ dBs	ØR28	
3	REC FM level	TP53	R80 (FM REC ADJ)	<ul style="list-style-type: none"> <li>• S-VHS mode</li> <li>• REC then PB</li> <li>• No signal</li> <li>• Color bar</li> </ul>	1) Set for REC mode, without an audio signal, then play back. 2) Adjust R80 for 50 mVp-p $\pm 5$ mV FM audio playback voltage.
		FM level	50 mVp-p	ØR80	
4	Level indicator	FDP (LEVEL IND.)	R73 (LEVEL IND [L])	<ul style="list-style-type: none"> <li>• 1 kHz, -8 dBs</li> <li>• AUDIO OUT to Hi-Fi</li> <li>• E-E</li> <li>• LEVEL INDICATOR SW: ON</li> <li>• Hi-Fi REC LEVEL SW: MANUAL</li> </ul>	1) Supply a 1 kHz, -8 dBs audio signal to AUDIO IN. 2) Adjust Hi-Fi REC level controls so that the audio output level become -6 dBs both on L and R channels. 3) In the E-E (Stop) mode, adjust R73 to the point where the FDP level indicators show 0 dB.
			R74 (LEVEL IND [R])		4) In the same manner, adjust R74 for the R (CH-2) channel.

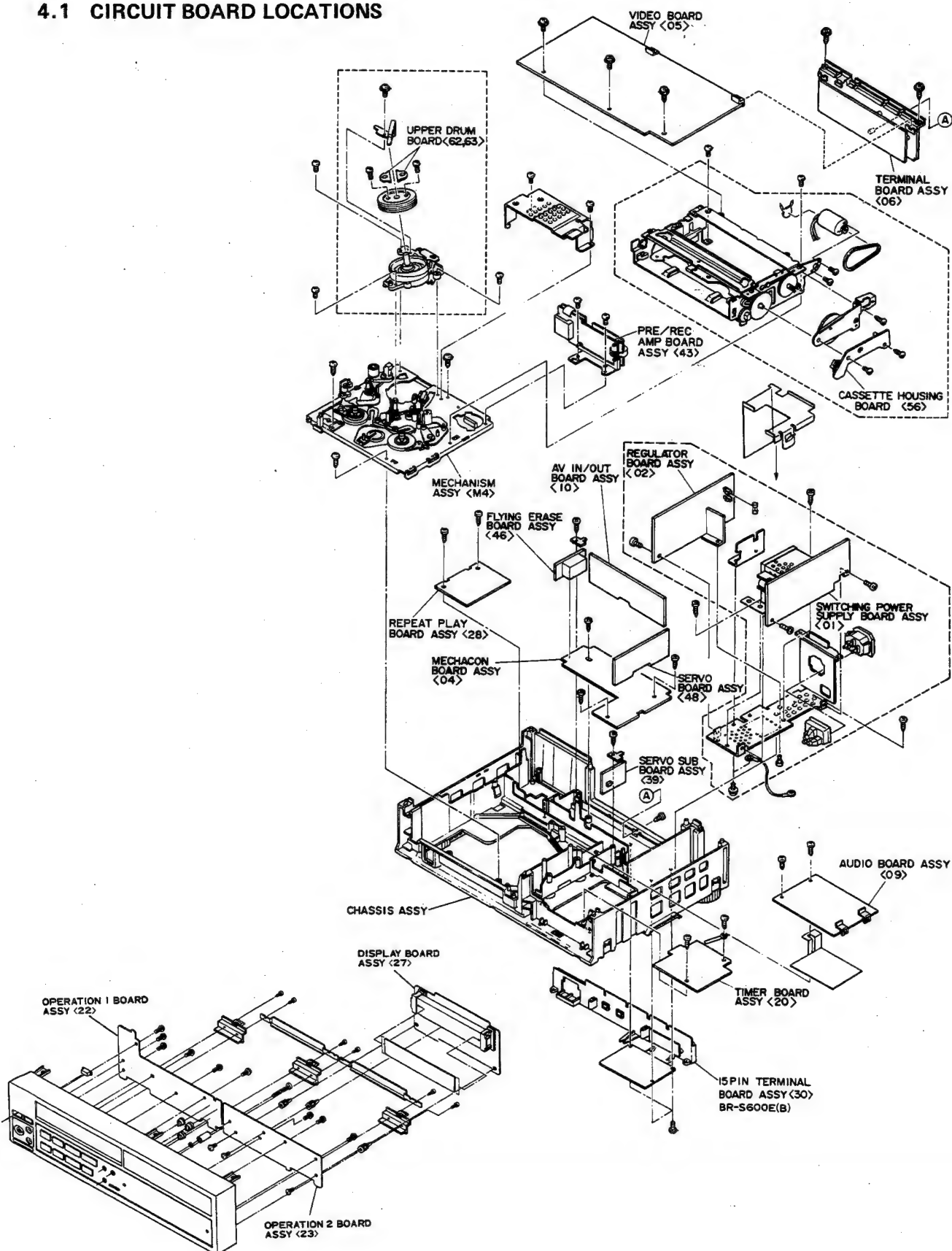
### 3.7 PRE/REC CIRCUIT

**Note:** Unless otherwise noted, all test points and adjustments are located on the PRE/REC board **4 3**.


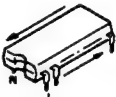


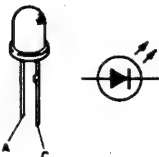
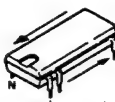
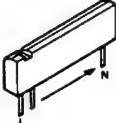


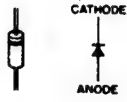
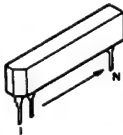


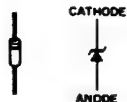
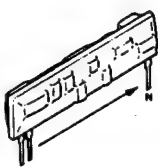



No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description									
1	Video head resonance & Q (quality factor)	TP6	CH1 C7 (F) R11 (Q)	<ul style="list-style-type: none"><li>• RF sweeper</li><li>• E-E</li><li>• S-VHS mode</li></ul>	<p><b>Note:</b> (1) This adjustment is required only after replacing the upper drum (video heads). (2) Connect ground of probe (oscilloscope) to shield case of the PRE/REC board. (3) A drum assembly is supported on the desk because of rotation.</p> <ol style="list-style-type: none"><li>1) Insert an S-VHS tape and set for the E-E mode.</li><li>2) Connect an oscilloscope to TP6 of the PRE/REC board. Supply a sweeper generator output to adjustment jig as shown in Fig. 3-7-2, then adjust the sweeper generator gain so that the waveform does not distort at TP6.</li><li>3) Trigger the oscilloscope externally with the signal from trigger output (VD) of the sweeper generator.</li><li>4) Use (–) trigger for CH-1 and (+) trigger for CH-2. Adjust C7 and C5 to set the CH-1 and CH-2 resonance point to 8 MHz. Use the control of the oscilloscope to position the 1 MHz region at graduation 2 of the oscilloscope scale.</li><li>5) Adjust R11 to position the 8 MHz portion at 4 of the oscilloscope graduation as shown in Fig. 3-7-1.</li><li>6) In the same manner, adjust R15 for CH-2.</li></ol>									
<div><div><p>Fig. 3-7-1</p></div><div><table border="1"><thead><tr><th></th><th>Fo</th><th>Q</th></tr></thead><tbody><tr><td>CH1</td><td>C7</td><td>R11</td></tr><tr><td>CH2</td><td>C5</td><td>R15</td></tr></tbody></table></div><div><p>Fig. 3-7-2</p></div><div><p>Fig. 3-7-3</p></div></div>							Fo	Q	CH1	C7	R11	CH2	C5	R15
	Fo	Q												
CH1	C7	R11												
CH2	C5	R15												
				<ul style="list-style-type: none"><li>• RF sweeper</li><li>↓</li><li>TP1 <b>4 3</b></li><li>• PB</li><li>• S-VHS mode</li></ul>	<p><b>Note:</b> It is recommended to proceed with the above-mentioned adjusting manner. However, if the above method cannot be performed for some reason, proceed to adjust according to the following manner.</p> <ol style="list-style-type: none"><li>1) Connect an oscilloscope to TP6 and supply a sweeper generator output to TP1.</li><li>2) Set to the Play mode with a blank (not yet used) cassette tape.</li><li>3) Trigger the oscilloscope externally with the signal from TP11 of the VIDEO board.</li><li>4) In the same manner as above steps 4) to 6).</li></ol>									

## SECTION 4 CHARTS AND DIAGRAMS

### 4.1 CIRCUIT BOARD LOCATIONS



## 4.2 MAIN TYPES OF ACTIVE AND PACKAGE CIRCUITS

	Integrated Circuit		Transistor		Diode
	A	B	C	D	E
1					
2					
3					
4					
5					

NAME		L	NAME		L	NAME		L
IC			S	SDA5642 STR-D1706 S-8053HNB	2A 5A 4B	2SD	2SD639R	2C
A	AN6041	3A				2SK	2SK658	1D
B	BA10324 BA716LS BU3791	2A 2B 2A	T	TA8405S TA8609P TA8733F TC4052BP TC74HC04AP TC74HC4066P	3B 1B 5B 1B 1A 1B	DIODE		
H	HZ118070 HD49722NT	1A 1A				H	HZ12A2 HZ6BITE	3E 3E
M	MC7805ACT MSC1148BRS MSM16811RS M50445-398SP M50938-625SP M51288SP M52055P	5A 2A 1A 1B 2A 1A 2A	U	UPD75216ACW-188	1B	O	OA90UF	2E
			V	VC2063S	2A	R	RD16ES-T1B2 RD20ES-T1B2	3E 3E
			TRANSISTOR			S	SLR-55VC3F	1E
			DTC	DTC124EK	1C	1	10E6-F2	2E
N	NJM2233AD NJM2234D NJM2234S NJM2243S	1A 1A 3B 3B	P	PN268R-NC	2D			
U	UN4319VI	3C						
P	PB20167A-01 PB20285A PB20286A-01 PB20287A-02 PB20289A-02 PB20290A-02 PB20291A PB20298A	4A 4A 4A 4A 4A 4A 4A 4A	2SA	2SA1036K	1C	3C 2C 3C 3C		
			2SC	2SC1740 2SC2647 2SC3311A 2SC3313CTA				

### 4.3 ABBREVIATIONS USED IN THE SCHEMATIC DIAGRAMS

<b>A</b>	<b>AC</b>	: Alternating Current
	<b>ACC</b>	: Automatic Color Control
	<b>ACCEL</b>	: Acceleration
	<b>A/CTL</b>	: Audio/Control
	<b>ADC</b>	: Analog to Digital Converter
	<b>ADD</b>	: Adder
	<b>ADRS</b>	: Address
	<b>ADJ</b>	: Adjustment
	<b>A DUB</b>	: Audio Dubbing
	<b>AE</b>	: Audio Erase
	<b>AEF</b>	: Automatic Editing Function
	<b>AFC</b>	: Automatic Frequency Control
	<b>AFT</b>	: Automatic Fine Tuning
	<b>AGC</b>	: Automatic Gain Control
	<b>AH</b>	: Audio Head
	<b>AL</b>	: After Loading
	<b>ALC</b>	: Automatic Light Compensation
		: Automatic Level Control
	<b>AM</b>	: Amplitude Modulation
	<b>AMP</b>	: Amplifier
	<b>ANT</b>	: Antenna
	<b>APC</b>	: Automatic Pedestal Control
		: Automatic Phase Control
	<b>APL</b>	: Average Picture Level
	<b>A/S/M</b>	: Audio/Servo/Mechacon
	<b>ASS'Y</b>	: Assembly
	<b>ATT</b>	: Attenuator
	<b>AUD</b>	: Audio
	<b>AUTO</b>	: Automatic
	<b>AUX</b>	: Auxiliary

<b>B</b>	<b>B</b>	: Base
	<b>BAL</b>	: Balance
	<b>BATT</b>	: Battery
	<b>BFP</b>	: Burst Flag Pulse
	<b>BIT</b>	: Binary Digit
	<b>BLK</b>	: Black, Blanking
	<b>BLU</b>	: Blue
	<b>BILING</b>	: Bilingual
	<b>BPF</b>	: Bandpass Filter
	<b>BRK</b>	: Brake
	<b>BRN</b>	: Brown
	<b>BT</b>	: Band Tuning
	<b>BUFF</b>	: Buffer
	<b>BW or B/W</b>	: Black and White

<b>C</b>	<b>C</b>	: Capacitance, Collector, Color
	<b>CAP</b>	: Capstan, Capacitor
	<b>CAR</b>	: Carrier
	<b>CARR</b>	: Carrier
	<b>CASS</b>	: Cassette
	<b>CCD</b>	: Charge Coupled Device
	<b>CCT</b>	: Circuit
	<b>CD</b>	: Count Down
	<b>CE</b>	: Chip Enable
	<b>CF</b>	: Ceramic Filter
	<b>CH</b>	: Channel
	<b>CHG</b>	: Charge
	<b>CHROMA</b>	: Chrominance
	<b>CLK</b>	: Clock
	<b>CLR</b>	: Clear
	<b>CMD</b>	: Command
	<b>CNT</b>	: Count, Counter
	<b>COL</b>	: Color
	<b>COM</b>	: Common
	<b>COMB</b>	: Combination
		: Comb Filter
	<b>COMP</b>	: Comparator
		: Composite
		: Compensation
	<b>CONN</b>	: Connector
	<b>CONV</b>	: Converter
	<b>CP</b>	: Circuit Protector
		: Clamp Pulse
	<b>CPC</b>	: Capstan Phase Control
	<b>CTL</b>	: Control

<b>D</b>	<b>D</b>	: Drum, Digital, Diode, Drain
	<b>DAC</b>	: Digital to Analog Converter
	<b>dB</b>	: Decibel
	<b>DC</b>	: Direct Current
	<b>DEC</b>	: Decoder
	<b>DEM0D</b>	: Demodulator
	<b>DEMUX</b>	: Demultiplexer
	<b>DET</b>	: Detector
	<b>DEV</b>	: Deviation
	<b>DIF</b>	: Differential
	<b>DISCR</b>	: Discriminator
	<b>DL</b>	: Delay Line
	<b>DOC</b>	: Dropout Compensator
	<b>DOD</b>	: Drop Out Detector
	<b>DPC</b>	: Drum Phase Control

<b>E</b>	<b>E</b>	: Edit, Emitter
	<b>E-E</b>	: Electric to Electric
	<b>EF</b>	: Emitter-Follower
	<b>EMP</b>	: Emphasis
	<b>EN</b>	: Enable
	<b>ENC</b>	: Encoder
	<b>ENV</b>	: Envelope
	<b>EP</b>	: Extended Play
	<b>EQ</b>	: Equalizer
	<b>ES</b>	: Electronic Switch
	<b>ESNS</b>	: End Sensor
	<b>EXP</b>	: Expander
	<b>EXT</b>	: External

<b>F</b>	<b>F</b>	: Farad, Fuse
	<b>F ADV</b>	: Frame Advance
	<b>FDP</b>	: Fluorescent Display Panel
	<b>FE</b>	: Full Erase
	<b>FET</b>	: Field Effect Transistor
	<b>FF</b>	: Fast Forward
		: Flipflop
	<b>FG</b>	: Frequency Generator
	<b>FM</b>	: Frequency Modulation
	<b>FMA</b>	: FM Audio
	<b>FR</b>	: Full Recording, Frame, Fusible Resistor
	<b>FREQ</b>	: Frequency
	<b>F-V CONV</b>	: Frequency to Voltage Converter
	<b>FWD</b>	: Forward
	<b>FWD S</b>	: Forward Search

<b>G</b>	<b>G</b>	: Green, Gate, Grid
	<b>GEN</b>	: Generator
	<b>GND</b>	: Ground
	<b>GRN</b>	: Green
	<b>GRY</b>	: Gray

<b>H</b>	<b>H</b>	: High, Henry, Hour
	<b>HG</b>	: Hall Generator
	<b>HPF</b>	: Highpass Filter
	<b>Hz</b>	: Herz

<b>I</b>	<b>IC</b>	: Integrated Circuit
	<b>ID</b>	: Identification (Pulse)
	<b>IF</b>	: Intermediate Frequency
	<b>IFR</b>	: Infrared
	<b>IFT</b>	: Intermediate Frequency Transformer
	<b>IND</b>	: Indicator
	<b>INH</b>	: Inhibit
	<b>INS</b>	: Insert
	<b>INT</b>	: Internal, Interrupt
	<b>INV</b>	: Inverter
	<b>I/O</b>	: Input/Output
	<b>IR</b>	: Infrared

<b>L</b>	<b>L</b>	: Low, Left
	<b>LIM</b>	: Limiter
	<b>LIN</b>	: Linearity
	<b>LOAD</b>	: Loading (Cassette)
	<b>LP</b>	: Long Play
	<b>LPF</b>	: Lowpass Filter



<b>M</b>	<b>M</b>	: Motor, Mega
	<b>MAX</b>	: Maximum
	<b>MDA</b>	: Motor Drive Amplifier
	<b>MECHACON</b>	: Mechanism Control
	<b>MI</b>	: Multiintroduce
	<b>MIC</b>	: Microphone
	<b>MIN</b>	: Minimum
	<b>MIX</b>	: Mixer, Mixing
	<b>MMV</b>	: Monostable Multivibrator
	<b>MOD</b>	: Modulation, Modulator
	<b>MODEM</b>	: Modulator-Demodulator
	<b>MON</b>	: Monitor
	<b>MPX</b>	: Multiplexer, Multiplex
	<b>MS</b>	: Mode Select

<b>N</b>	<b>NAND</b>	: Not-And
	<b>NC</b>	: Not Connected, Normally Closed
	<b>NFB</b>	: Negative Feedback
	<b>NLN</b>	: Non-Linear
	<b>NO</b>	: Normally Open
	<b>NOR</b>	: Normal, Not-Or
	<b>NR</b>	: Noise Reduction

<b>O</b>	<b>OP</b>	: Operation
	<b>OPAMP</b>	: Operational Amplifier
	<b>ORN</b>	: Orange
	<b>OSC</b>	: Oscillator

<b>P</b>	<b>PB</b>	: Playback
	<b>PC</b>	: Photocoupler, Pulse Counter
	<b>PCM</b>	: Pulse Code Modulation
	<b>PG</b>	: Pulse Generator
	<b>PGM</b>	: Program
	<b>PI</b>	: Photo Interrupter
	<b>PIF</b>	: Picture Intermediate Frequency
	<b>PLA</b>	: Programmable Logic Array
	<b>PLL</b>	: Phase Locked Loop
	<b>POS</b>	: Position
	<b>p-p</b>	: Peak-to-Peak
	<b>PREAMP</b>	: Preamplifier
	<b>P/S</b>	: Pause/Still
	<b>PSC</b>	: Pulse Swallowing Control
	<b>PU</b>	: Pickup
	<b>PUT</b>	: Programmable Unijunction Transistor
	<b>PWM</b>	: Pulse Width Modulation
	<b>PWR</b>	: Power

<b>Q</b>	<b>Q</b>	: Quality Factor
----------	----------	------------------

<b>R</b>	<b>R</b>	: Red, Right
	<b>RA</b>	: Resistor Array
	<b>RAE</b>	: Random Access Enable
	<b>RAM</b>	: Random Access Memory
	<b>REC</b>	: Recording
	<b>REF</b>	: Reference
	<b>REG</b>	: Regulated, Regulator
	<b>REM</b>	: Remote
	<b>REMOCON</b>	: Remote Control (Unit)
	<b>REV</b>	: Reverse
	<b>REV S</b>	: Reverse Search
	<b>REW</b>	: Rewind
	<b>R/P</b>	: Record/Playback
	<b>RPT</b>	: Repeat
	<b>RST</b>	: Reset
	<b>RT</b>	: Rotary Transformer
	<b>RUN</b>	: Running
	<b>RY</b>	: Relay

<b>S</b>	<b>SAW</b>	: Sawtooth, Surface Acoustic Wave
	<b>SC</b>	: Subcarrier, Simulcast
	<b>SCH</b>	: Search
	<b>SEL</b>	: Select, Selector
	<b>SENS</b>	: Sensor
	<b>SEP</b>	: Separator
	<b>SF</b>	: Source Follower
	<b>SFF</b>	: Short Fast Forward
	<b>SIF</b>	: Sound Intermediate Frequency

<b>SHARP</b>	: Sharpness
<b>SN</b>	: Signal to Noise Ratio
<b>SOL</b>	: Solenoid
<b>SP</b>	: Standard Play
<b>SREV</b>	: Search Reverse
<b>SREW</b>	: Short Rewind
<b>S/S</b>	: Slow/Still
<b>SSG</b>	: Sync Signal Generator
<b>SSNS</b>	: Start Sensor
<b>STD</b>	: Strobe Data, Standard
<b>SUP</b>	: Supply
<b>SW</b>	: Switch
<b>SWD</b>	: Switched
<b>SYNC</b>	: Synchronization

<b>T</b>	<b>TF</b>	: Thermal Fuse
	<b>TIM</b>	: Timing
	<b>TK</b>	: Tracking
	<b>TNR</b>	: Tuner
	<b>TP</b>	: Test Point
	<b>TPZD</b>	: Trapezoid
	<b>TR</b>	: Transistor, Trimmer
	<b>TRANS</b>	: Transformer
	<b>TU</b>	: Take-up

<b>U</b>	<b>UL</b>	: Unloading
	<b>UNREG</b>	: Unregulated
	<b>UNSW</b>	: Unswitched

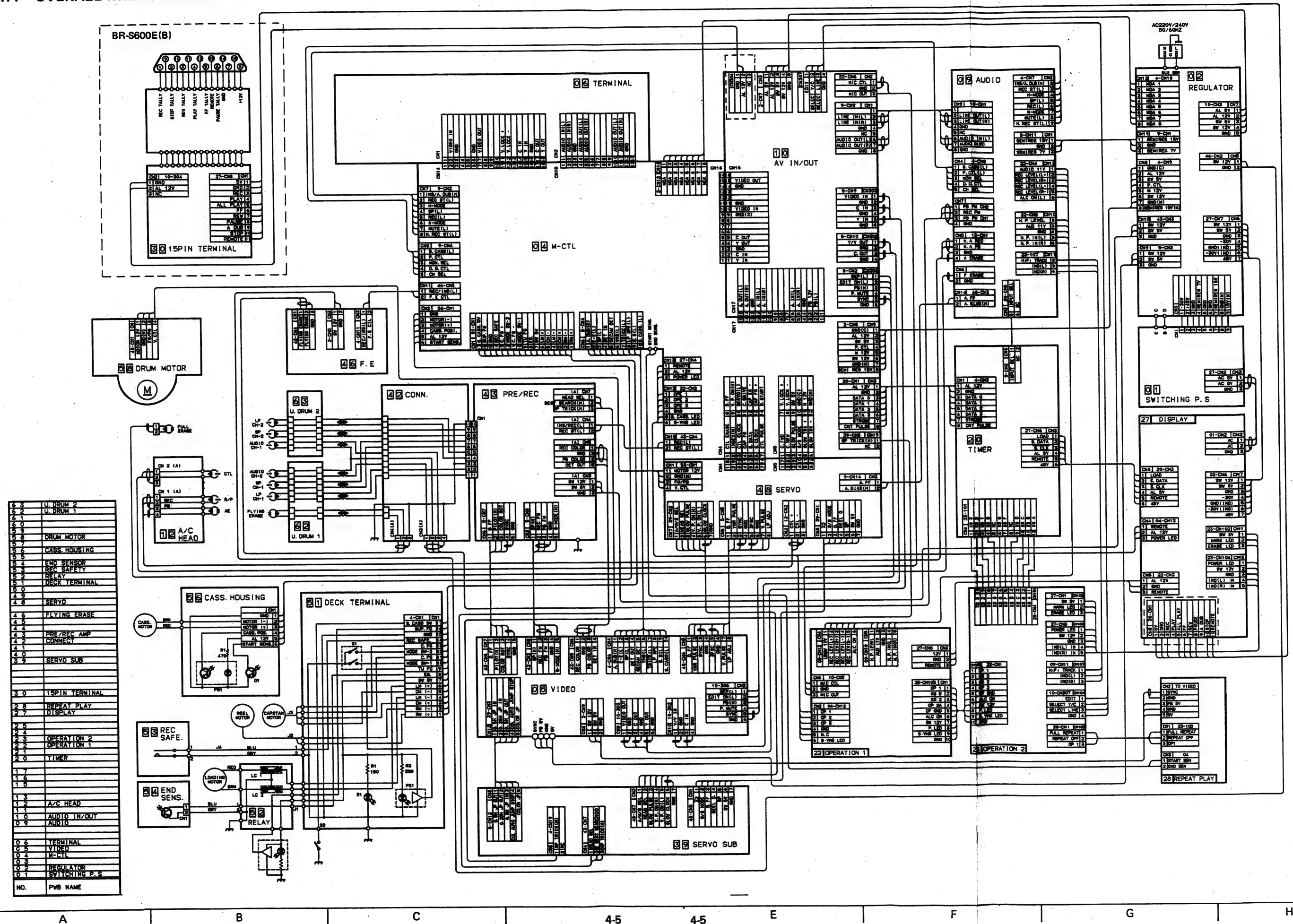
<b>V</b>	<b>V</b>	: Vertical, Volt
	<b>VCO</b>	: Voltage Controlled Oscillator
	<b>VD</b>	: Vertical Drive
	<b>VIF</b>	: Video Intermediate Frequency
	<b>VLT</b>	: Violet
	<b>VR</b>	: Variable Resistor
	<b>VS</b>	: Video and Sync
	<b>V/T</b>	: Video/Television
	<b>V/U</b>	: VHF/UHF
	<b>VXO</b>	: Variable Crystal Oscillator

<b>W</b>	<b>W</b>	: Watt
	<b>W &amp; D</b>	: White and Dark
	<b>WHT</b>	: White

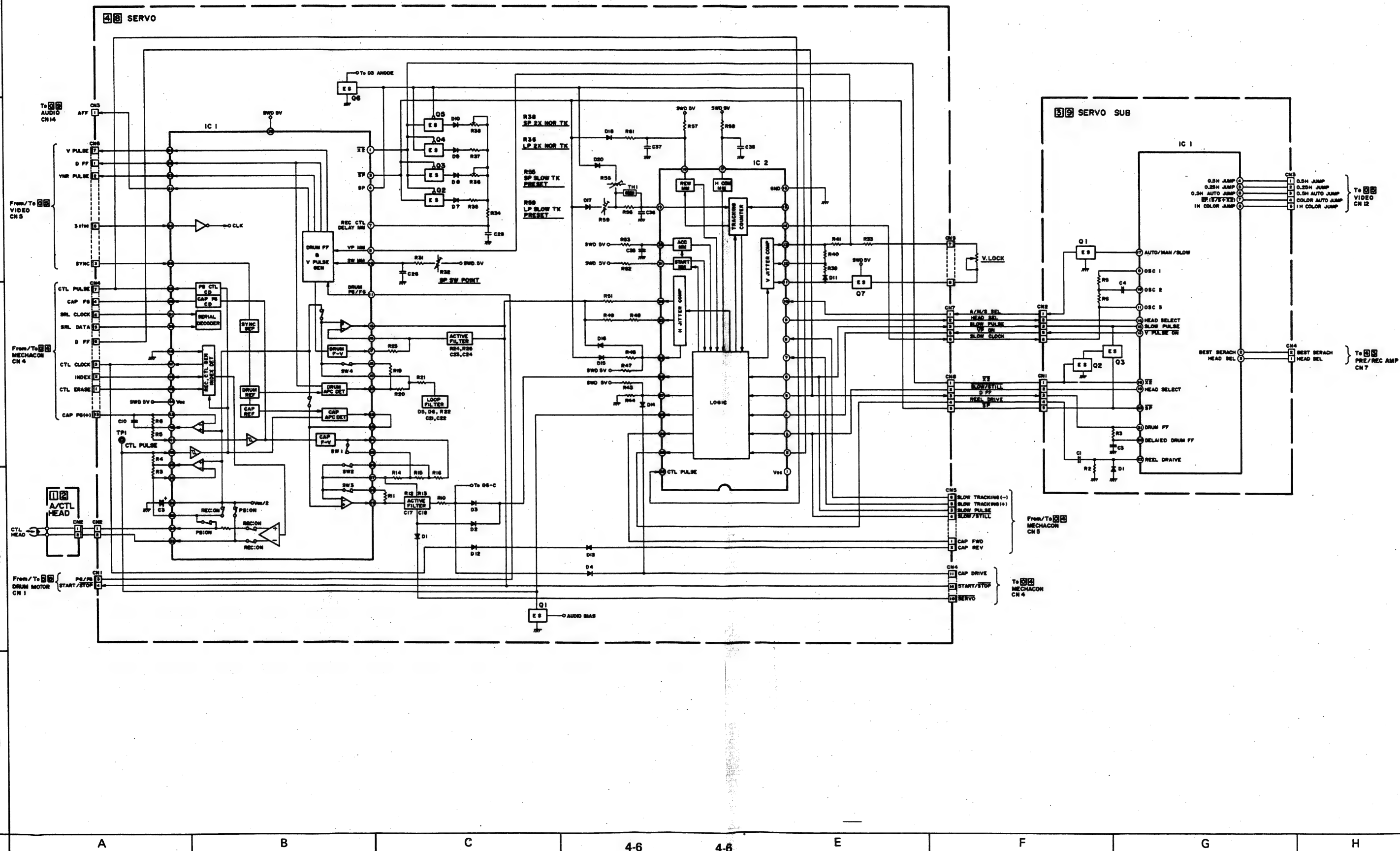
<b>X</b>	<b>XTAL</b>	: Crystal
----------	-------------	-----------

<b>Y</b>	<b>Y</b>	: Luminance
	<b>YEL</b>	: Yellow

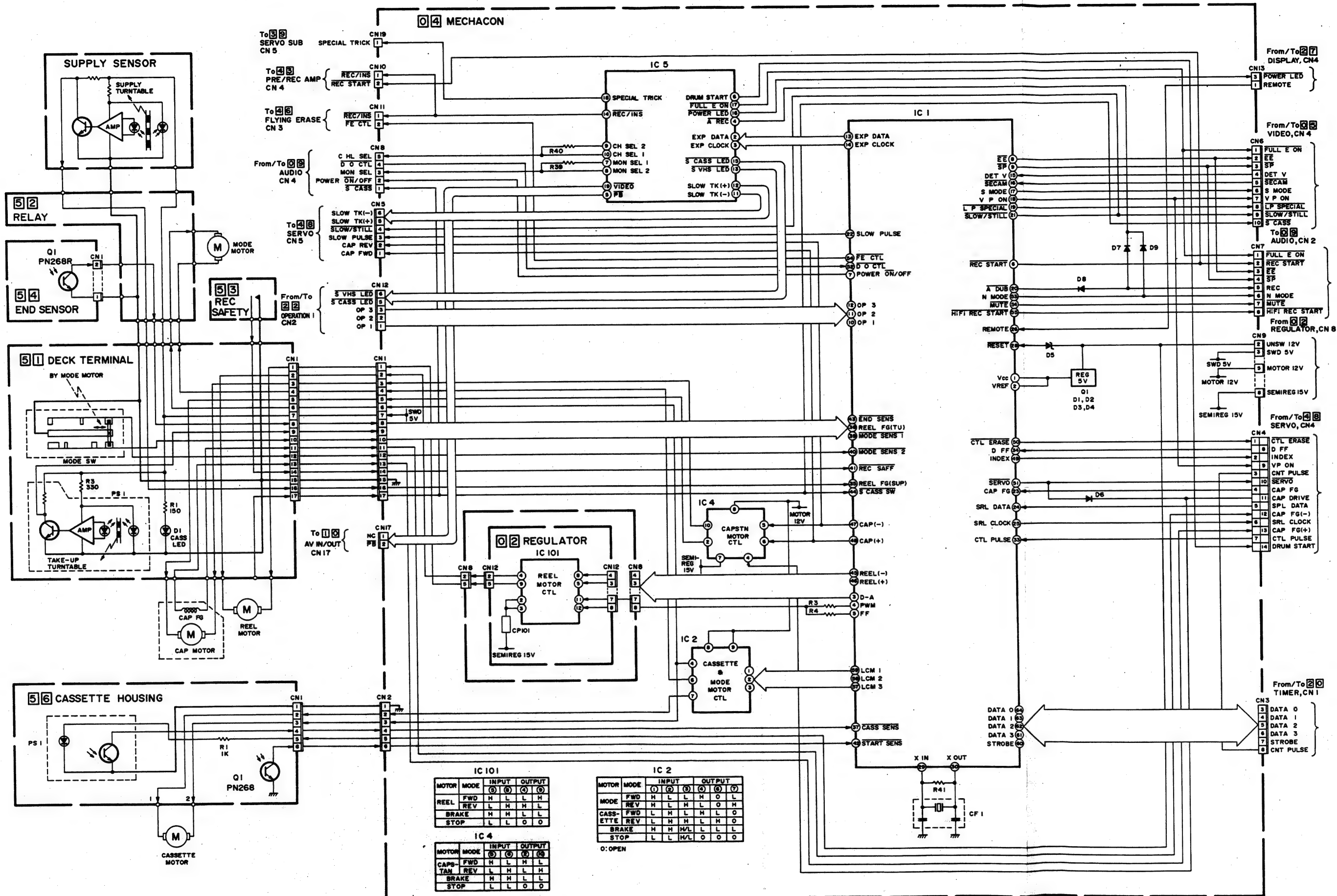
## 4.4 OVERALL WIRING DIAGRAM



## 4.5 SERVO BLOCK DIAGRAM



# 4.6 MECHACON BLOCK DIAGRAM





## 6

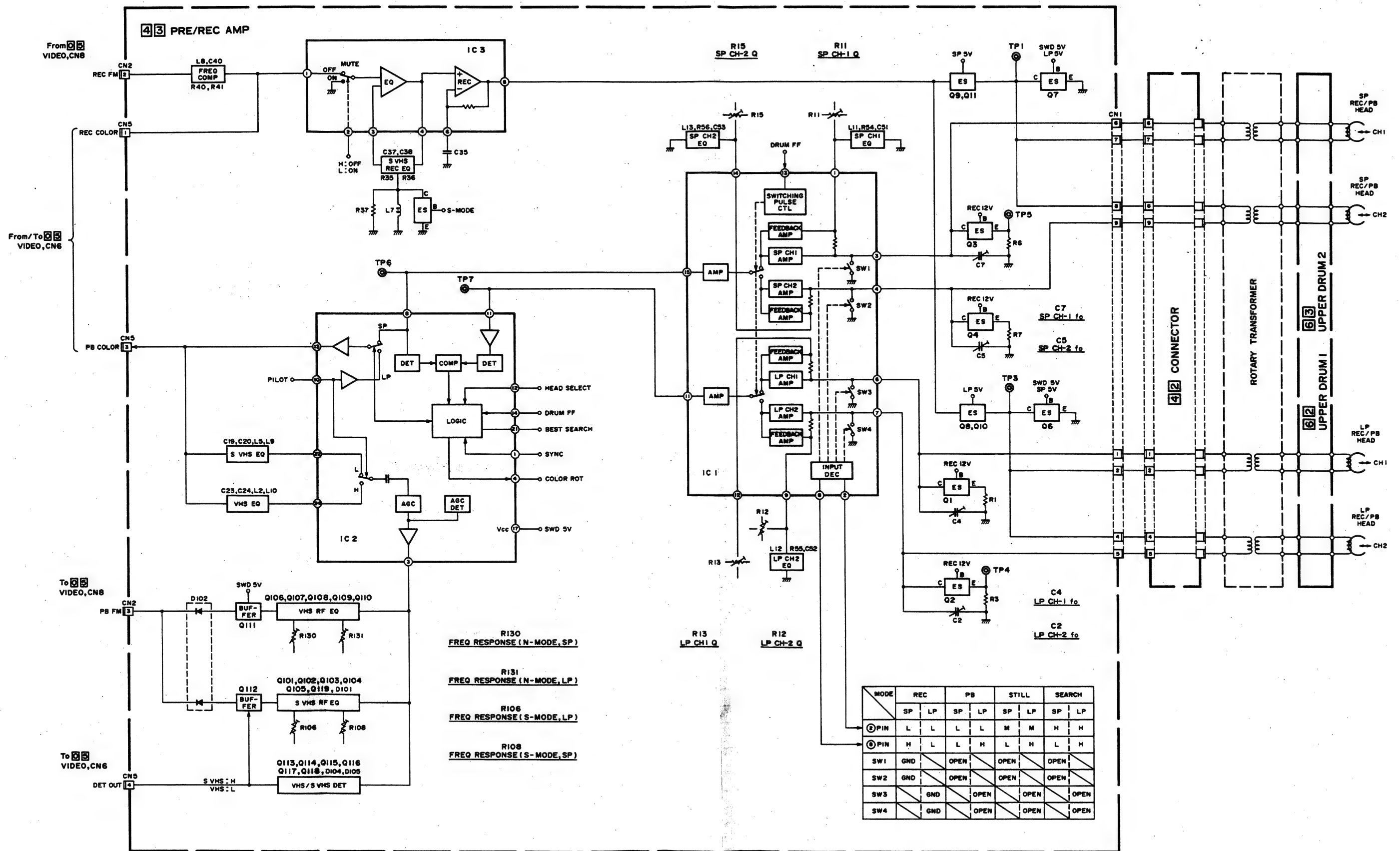
2

•

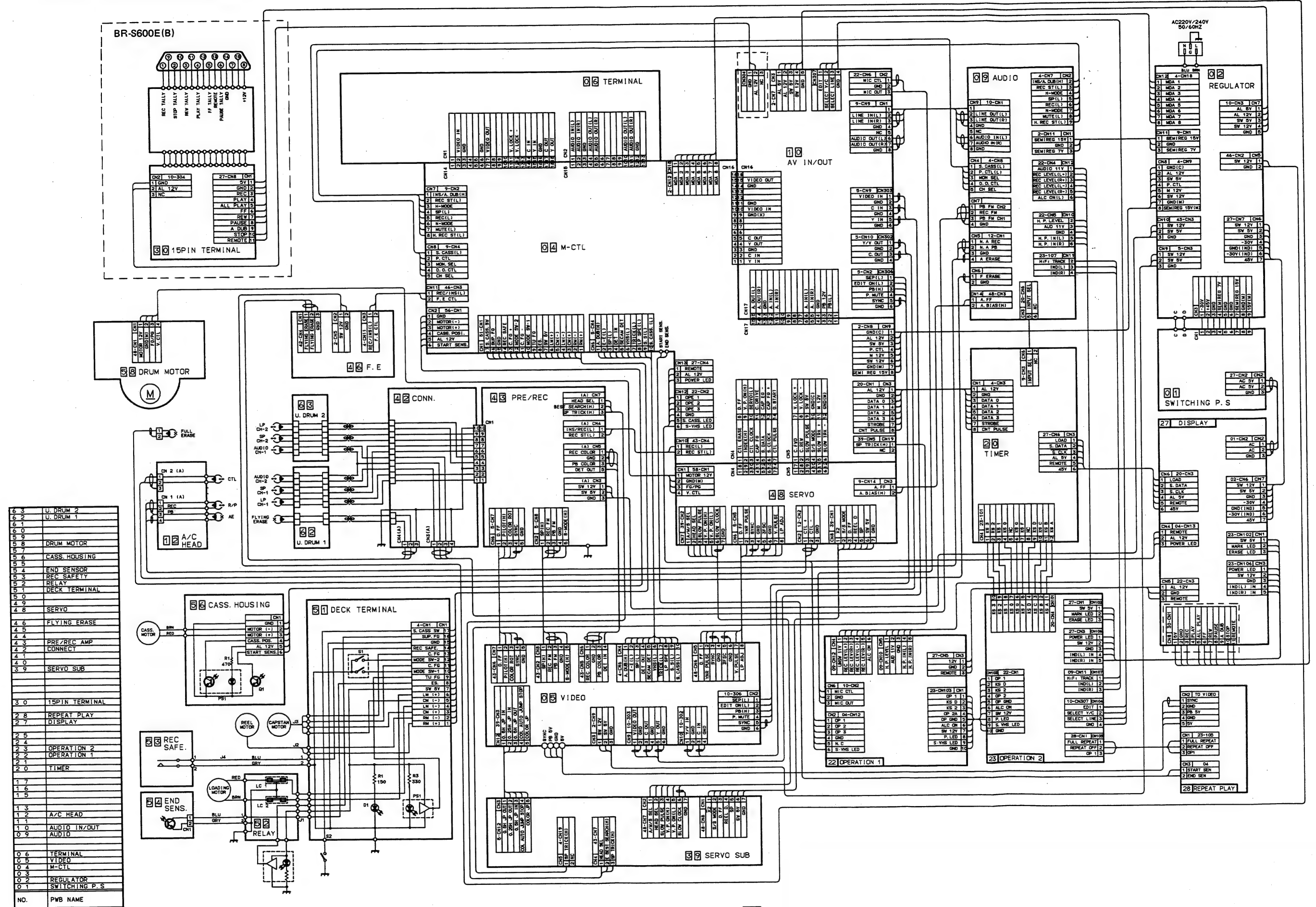




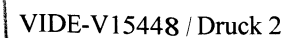
## 4.8 PRE/REC AMP BLOCK DIAGRAM

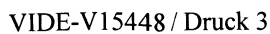


# 4.4 OVERALL WIRING DIAGRAM

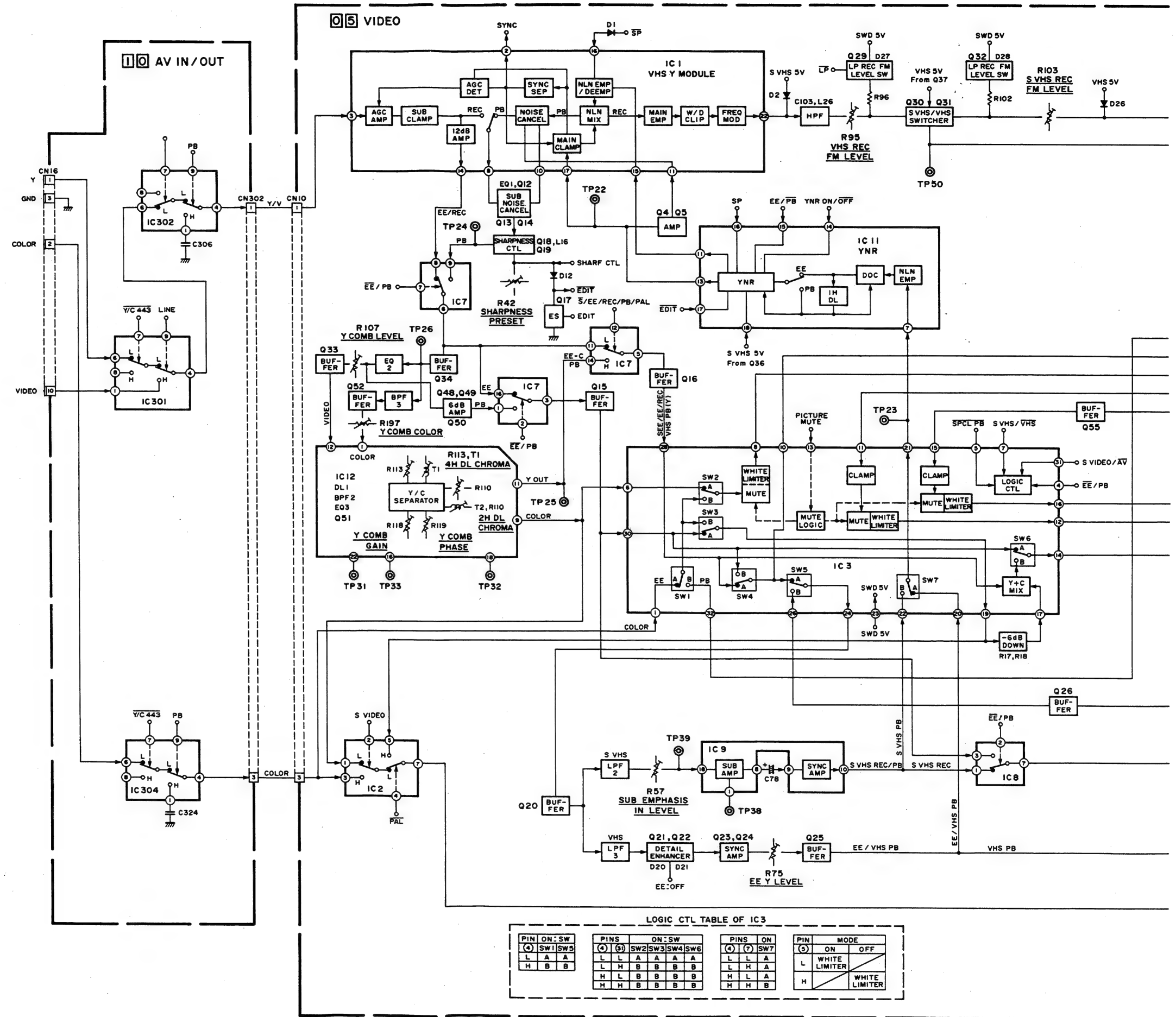


NO.	PWB NAME
63	U. DRUM 2
62	U. DRUM 1
61	
60	DRUM MOTOR
59	
58	CASS. HOUSING
57	END SENSOR
56	REC. SAFETY
55	RELAY
54	DECK TERMINAL
53	
52	SERVO
51	
50	FLYING ERASE
49	
48	PRE/REC AMP
47	CONNECT
46	
45	SERVO SUB
44	
43	15PIN TERMINAL
42	
41	REPEAT PLAY
40	DISPLAY
39	
38	OPERATION 2
37	OPERATION 1
36	
35	TIMER
34	
33	A/C HEAD
32	
31	AUDIO IN/OUT
30	AUDIO
29	
28	TERMINAL
27	VIDEO
26	M-CTL
25	
24	REGULATOR
23	SWITCHING P.S.
22	
21	
20	
19	
18	
17	
16	
15	
14	
13	
12	
11	
10	
9	
8	
7	
6	
5	
4	
3	
2	
1	





# 4.7 VIDEO BLOCK DIAGRAM

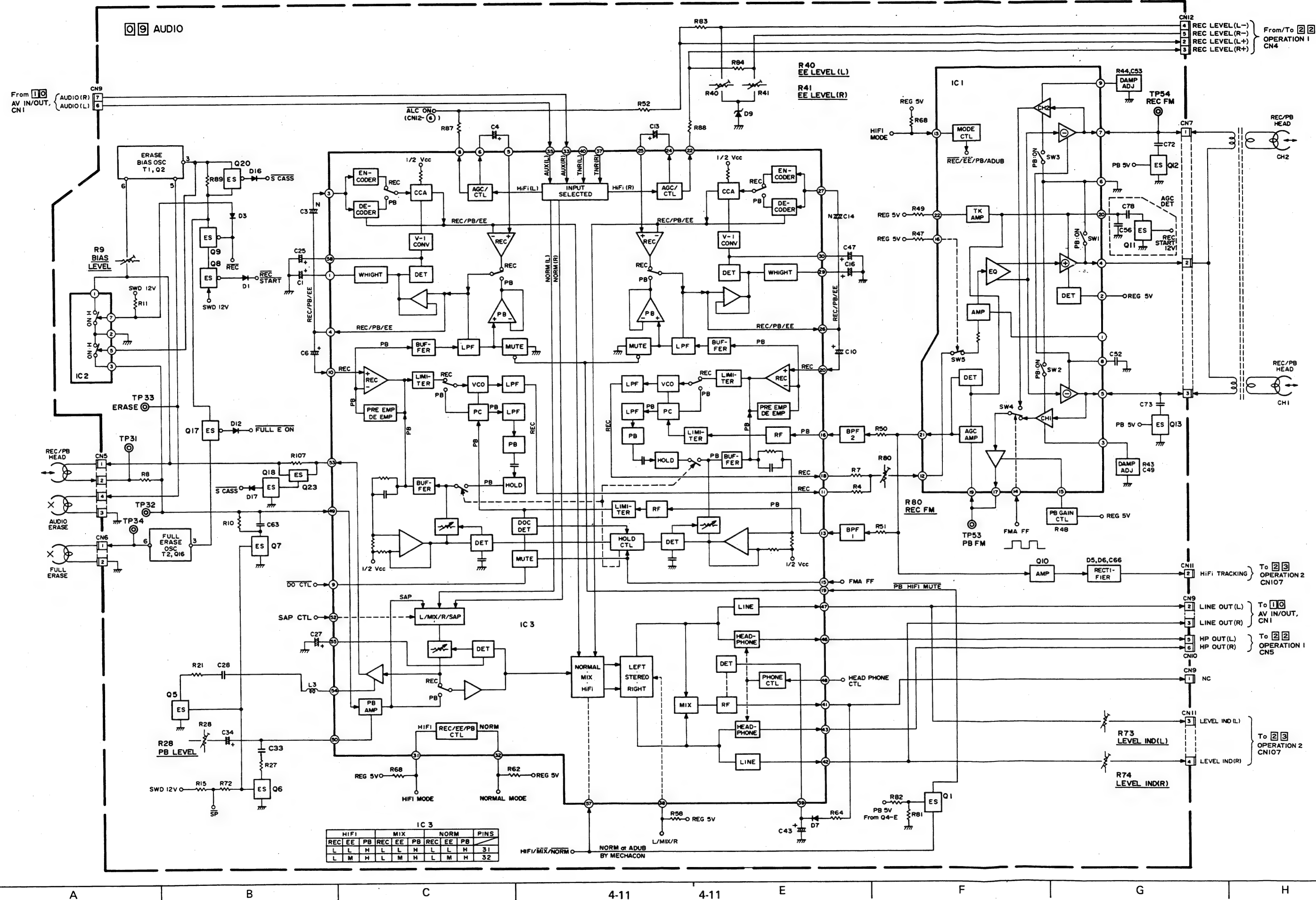




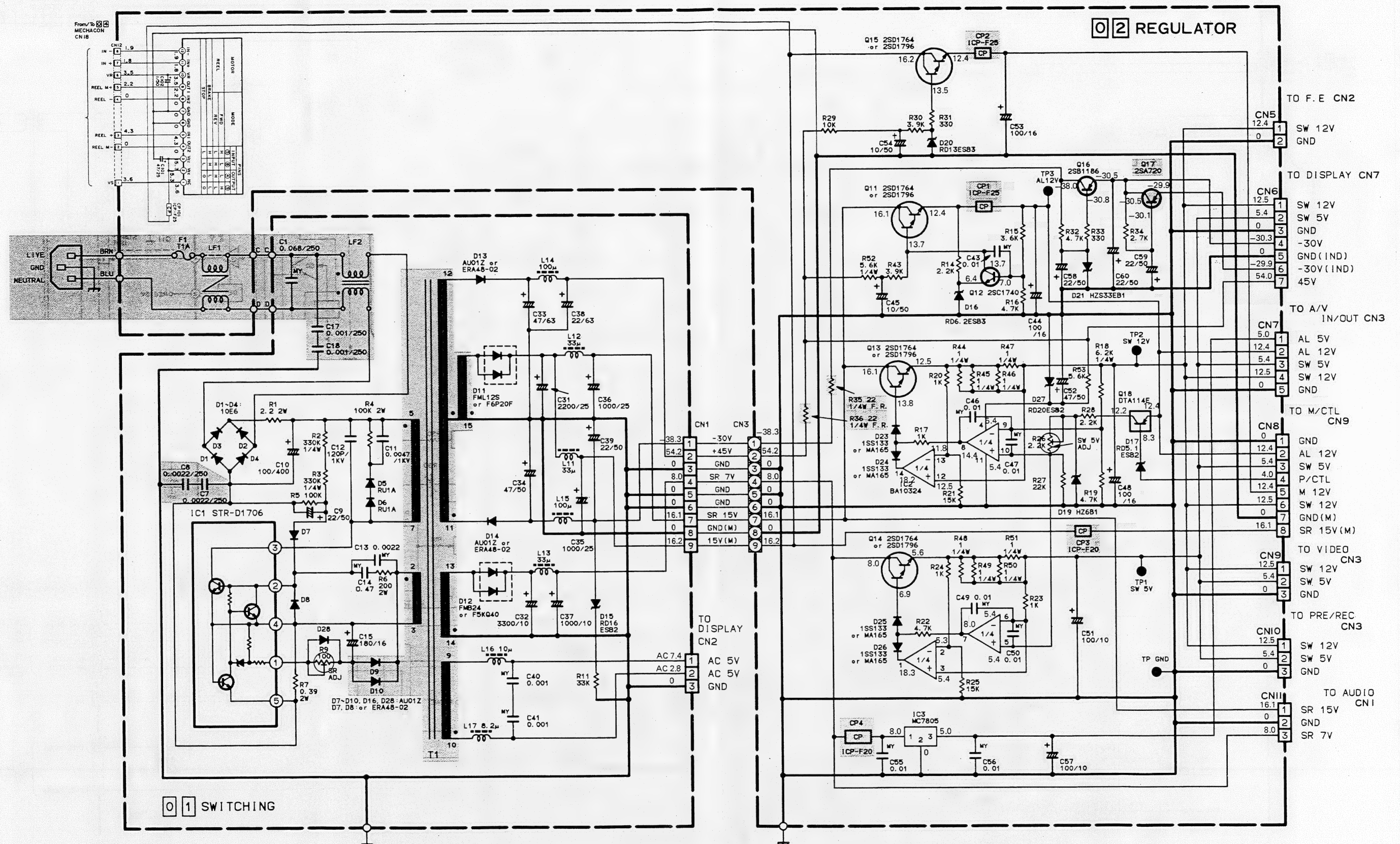








# 4.10 SWITCHING POWER SUPPLY AND REGULATOR SCHEMATIC DIAGRAMS





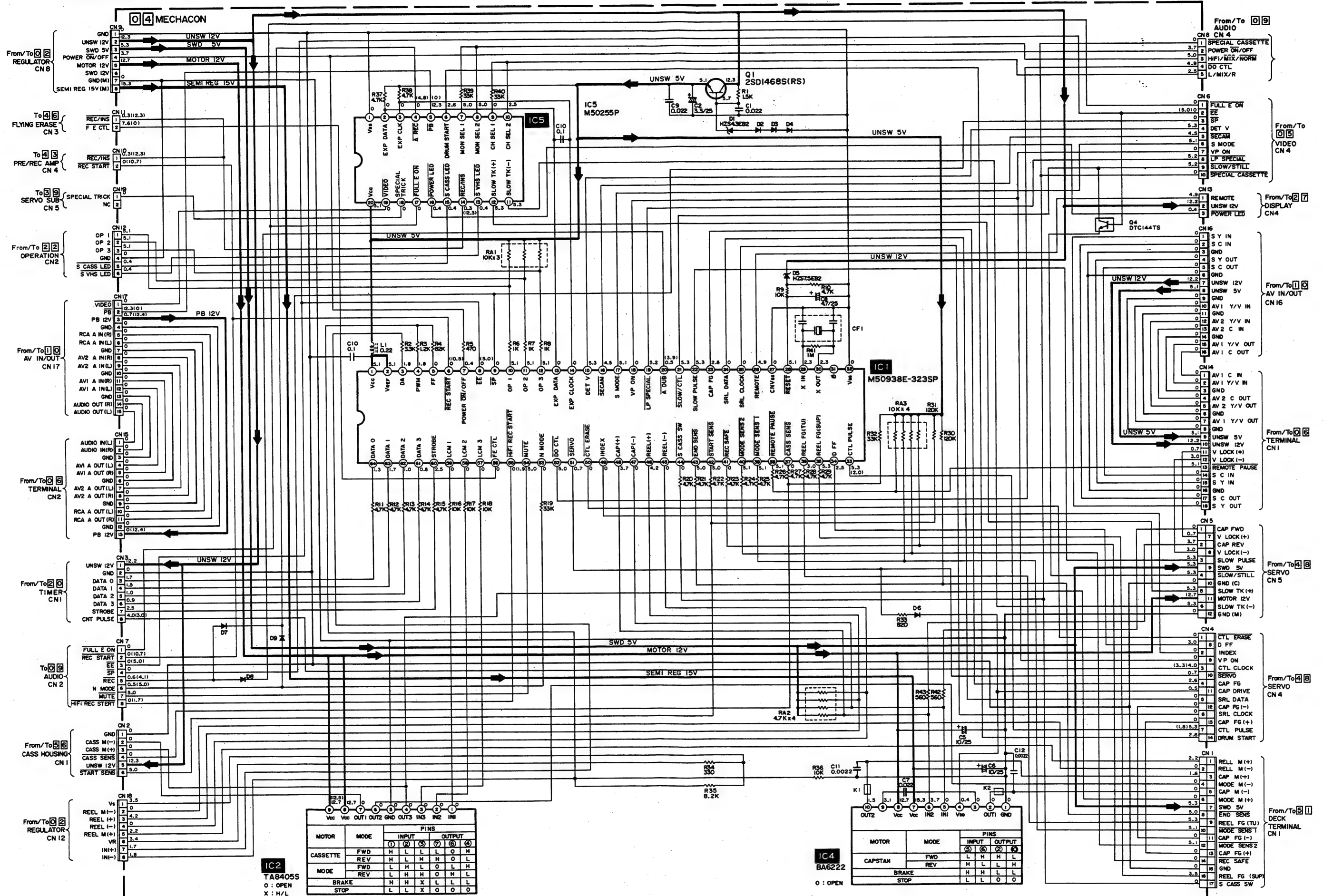
## 6

5



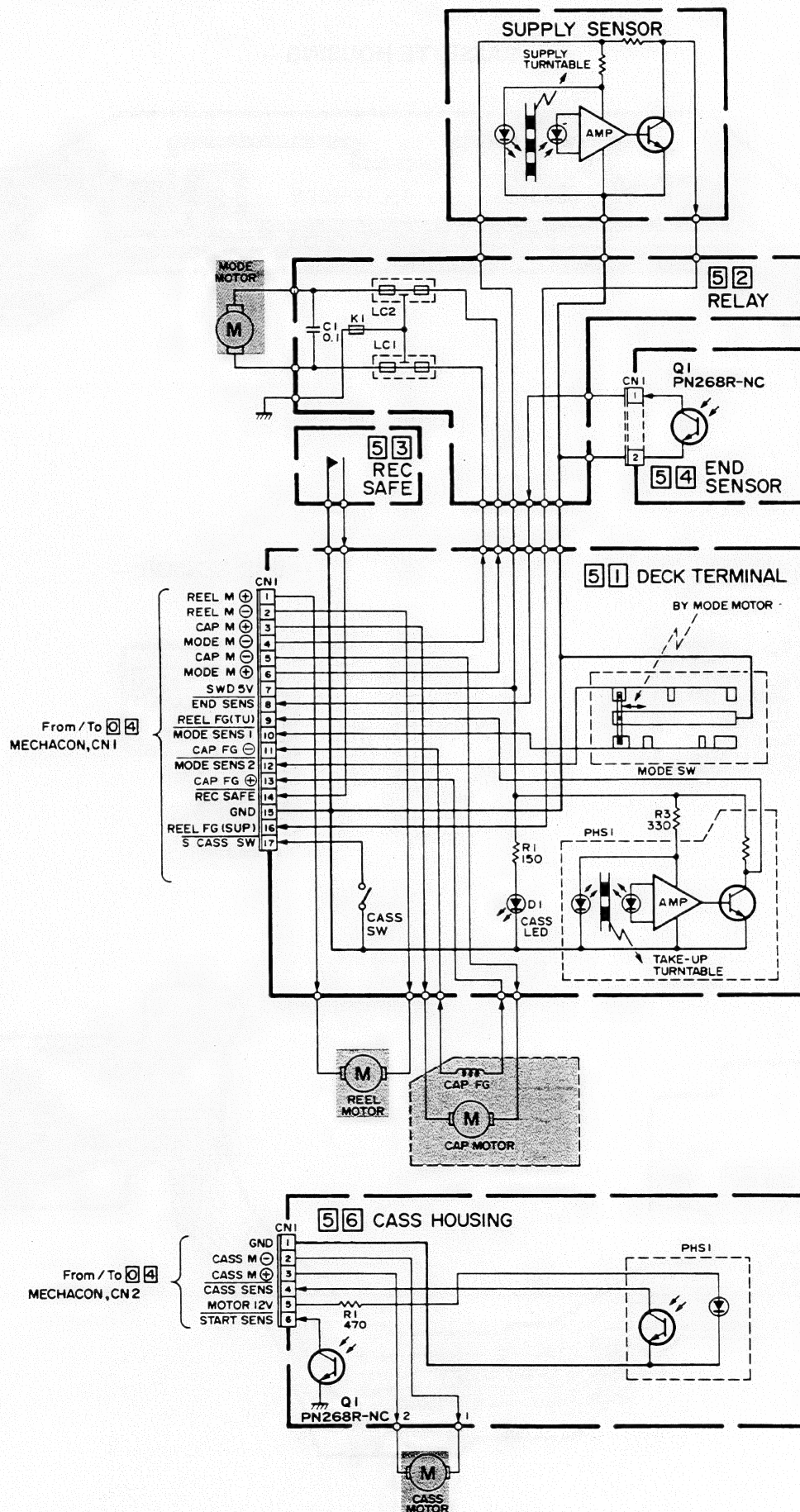
-

# 4.12 MECHANISM CONTROL SCHEMATIC DIAGRAM





#### 4.13 DECK TERMINAL, CASSETTE HOUSING, RELAY, END SENSOR AND REC SAFETY SCHEMATIC DIAGRAMS



## 6

5



## 3



## 1



A

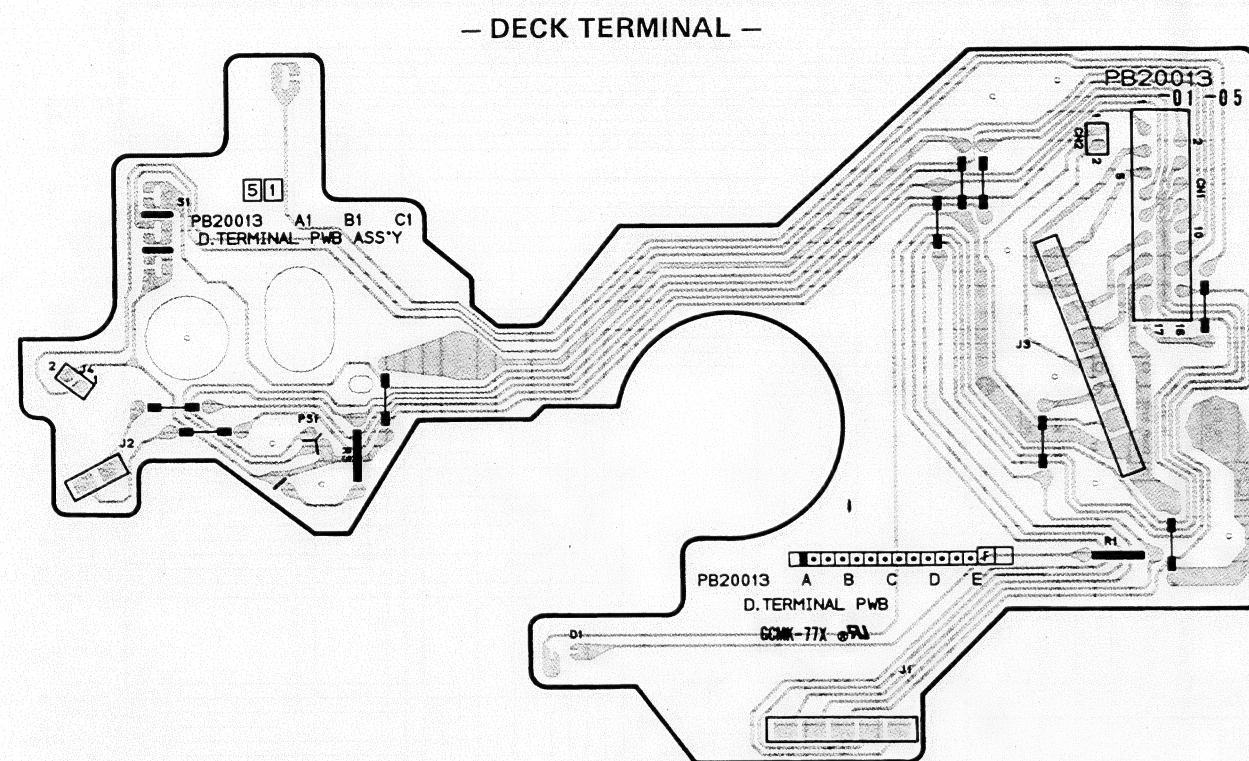
**B**

· C

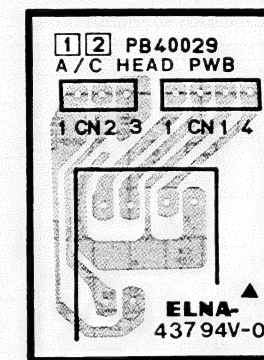
D



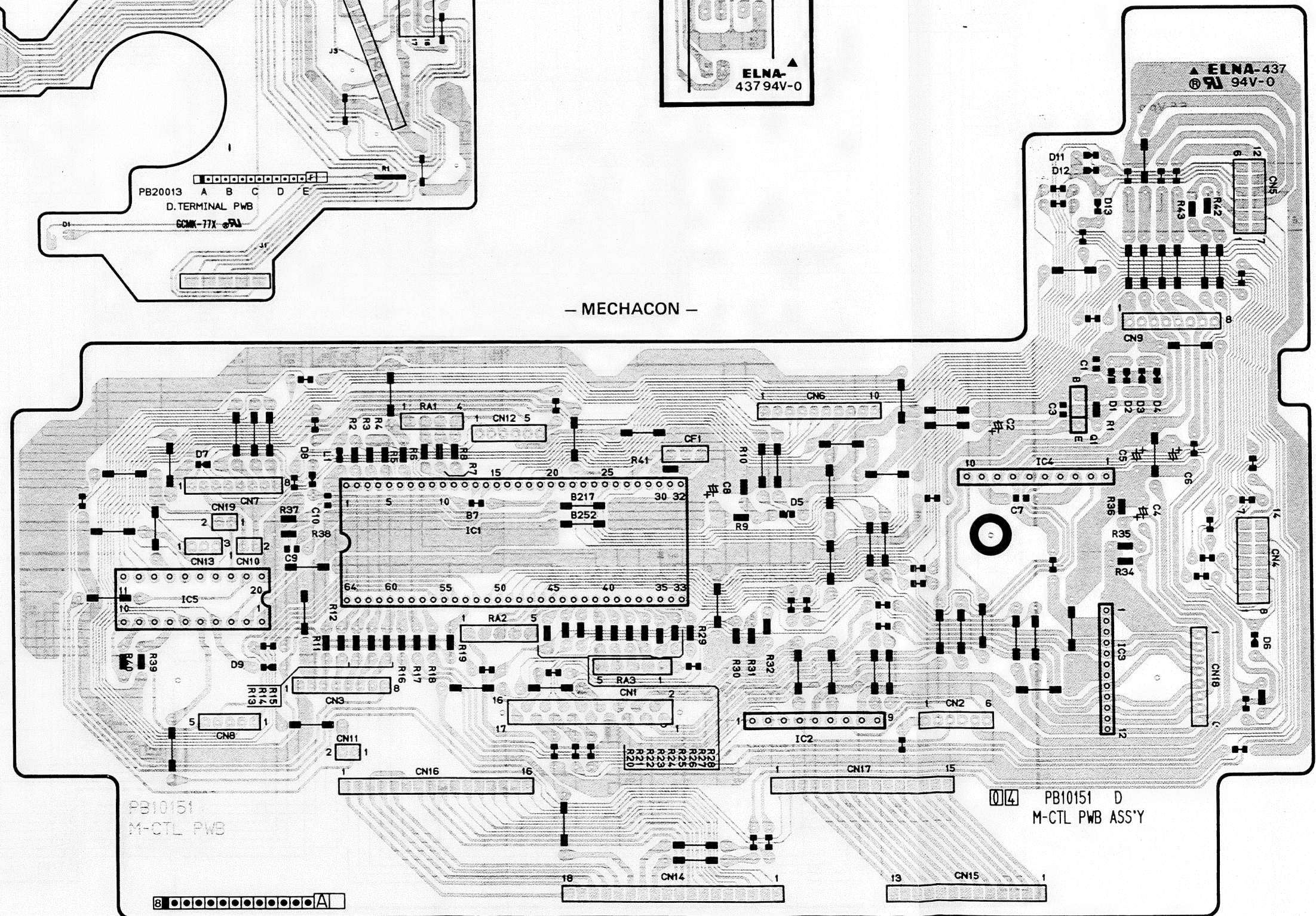
# 4.15 MECHANISM CONTROL AND AUDIO/CONTROL HEAD CIRCUIT BOARDS



— A/C HEAD —



— MECHACON —



A

B

C

4-17

4-17

E

F

G

H



# 4.16 SERVO AND SERVO SUB SCHEMATIC DIAGRAMS

6

5

4

3

2

1

A

B

C

4-18

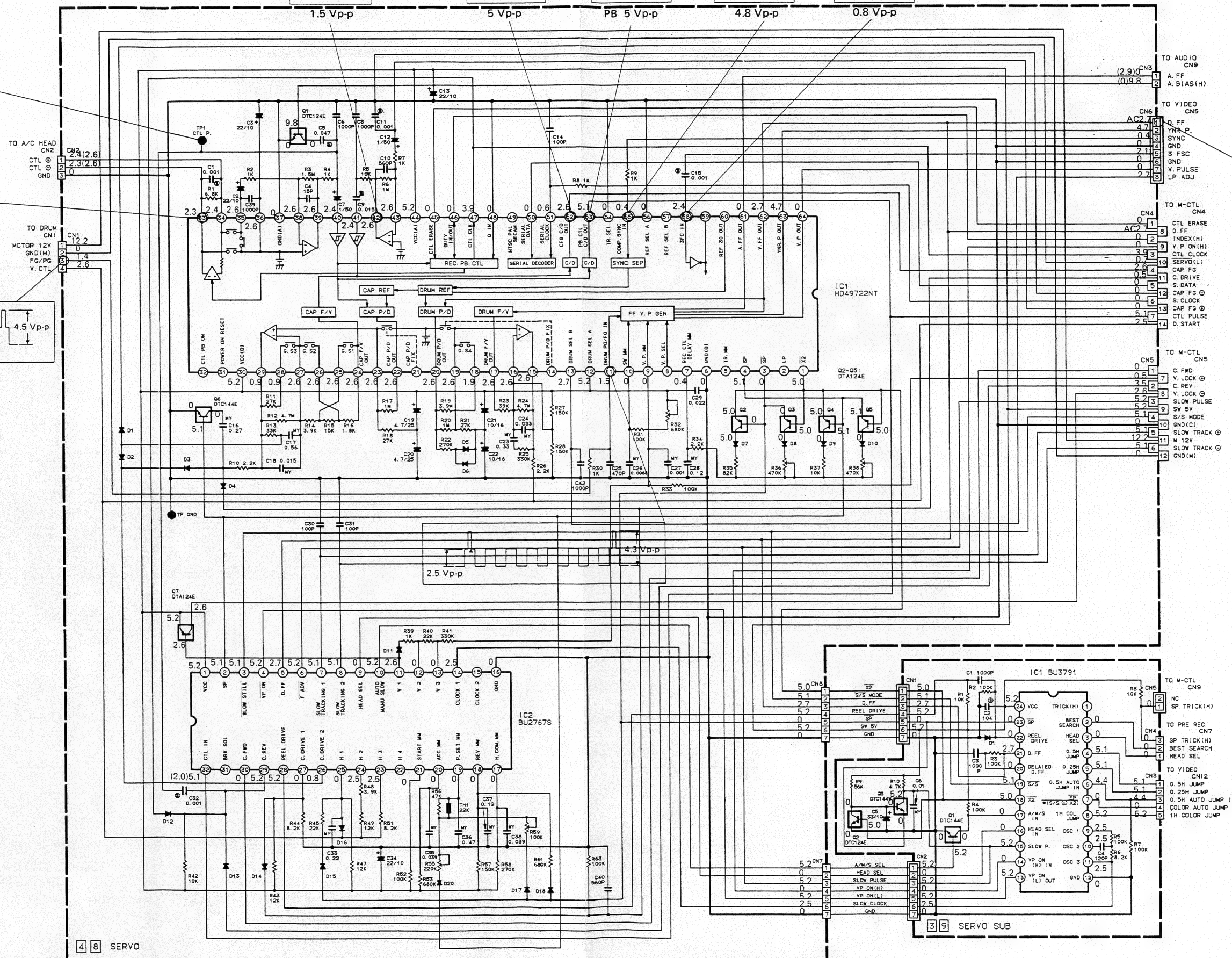
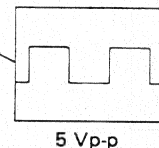
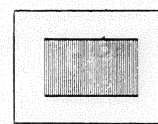
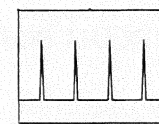
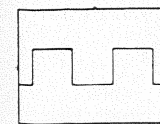
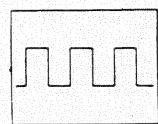
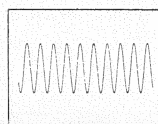
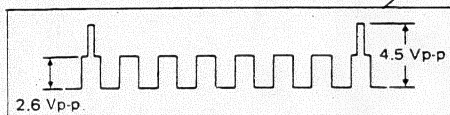
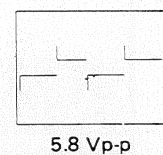
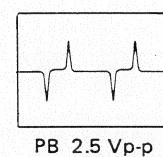
4-18

E

F

G

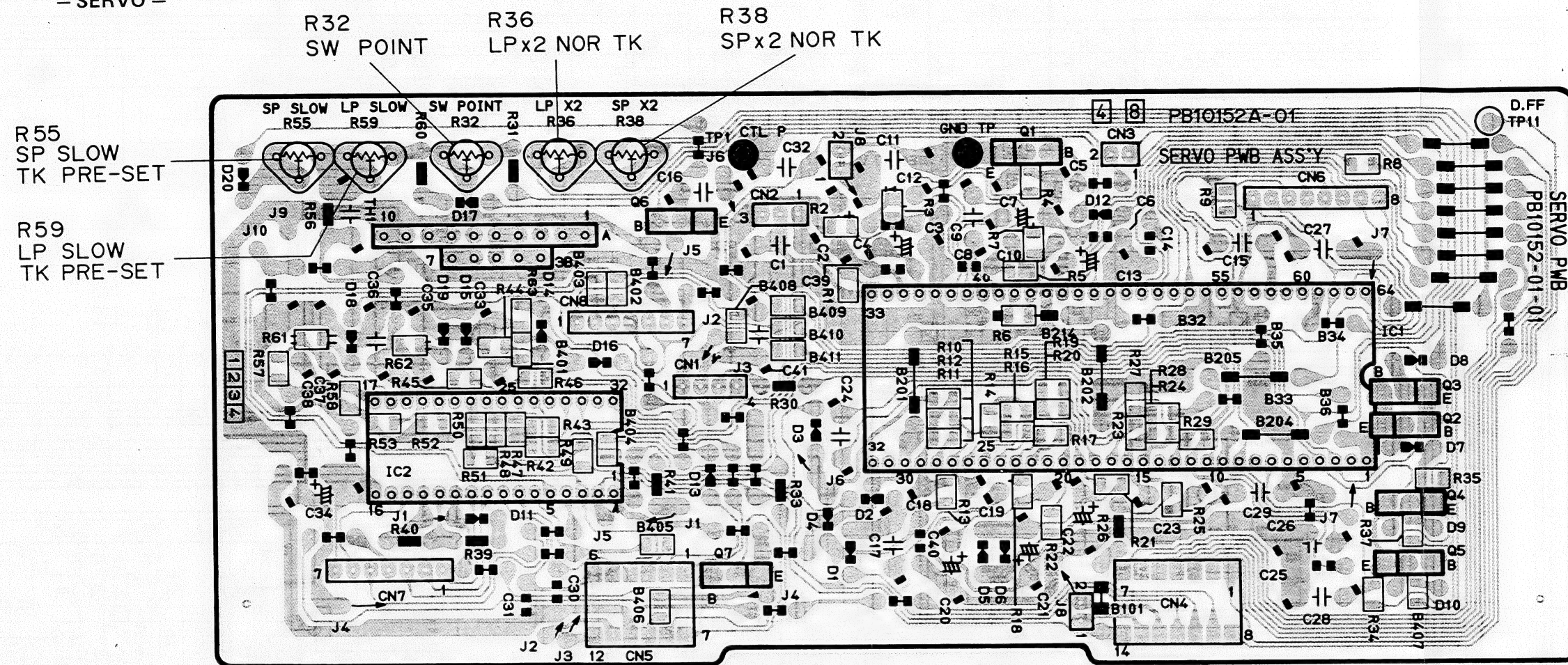
H



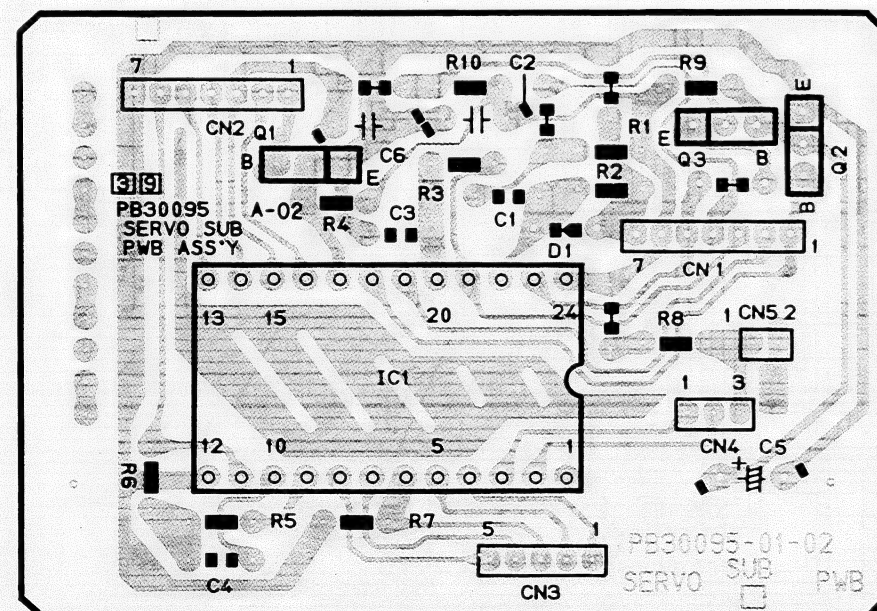


# 4.17 SERVO AND SERVO SUB CIRCUIT BOARDS

— SERVO —



— SERVO SUB —



4-19

4-19

E

F

G

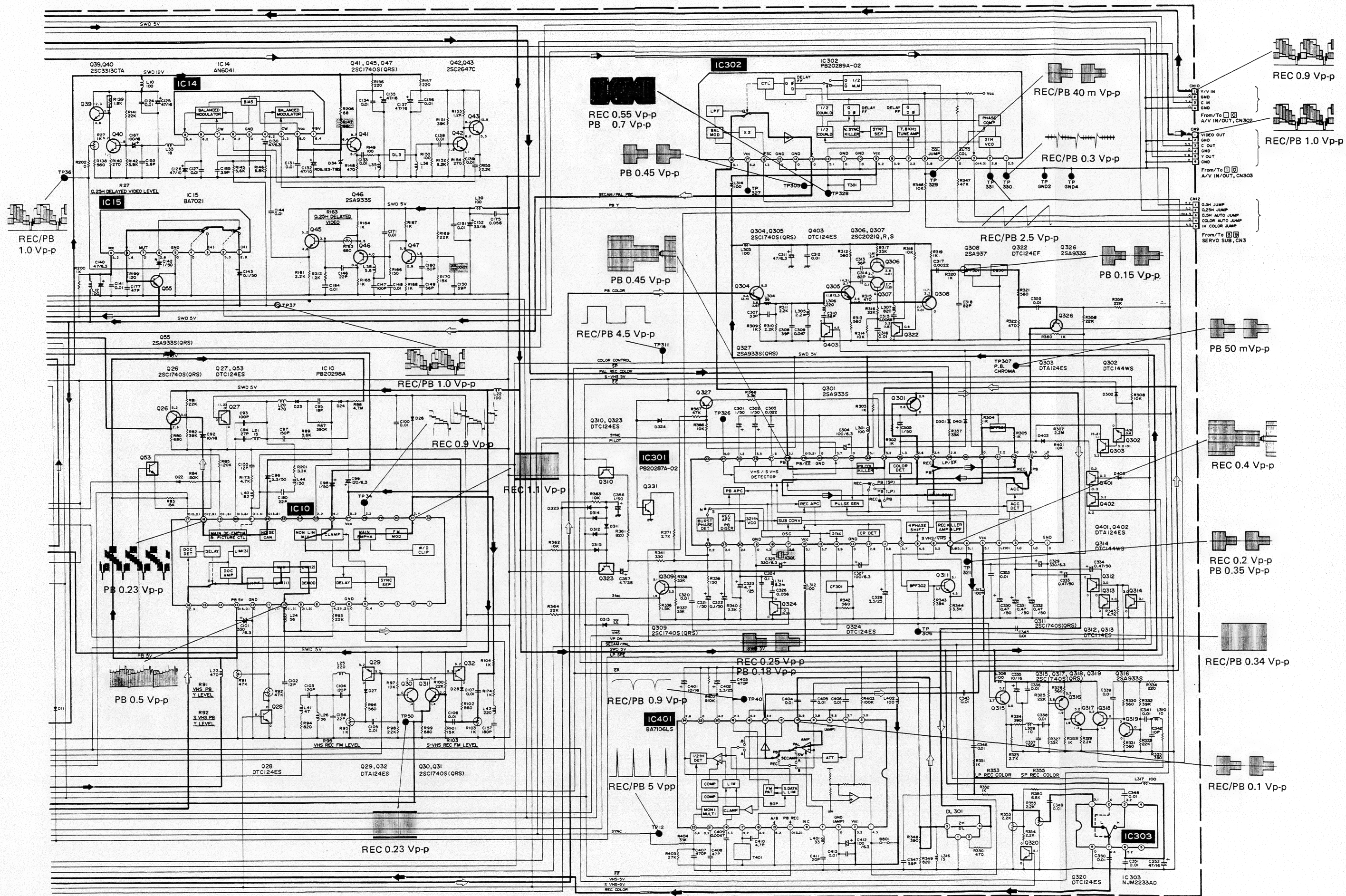
H



## 6













## 6

## 5



## 3

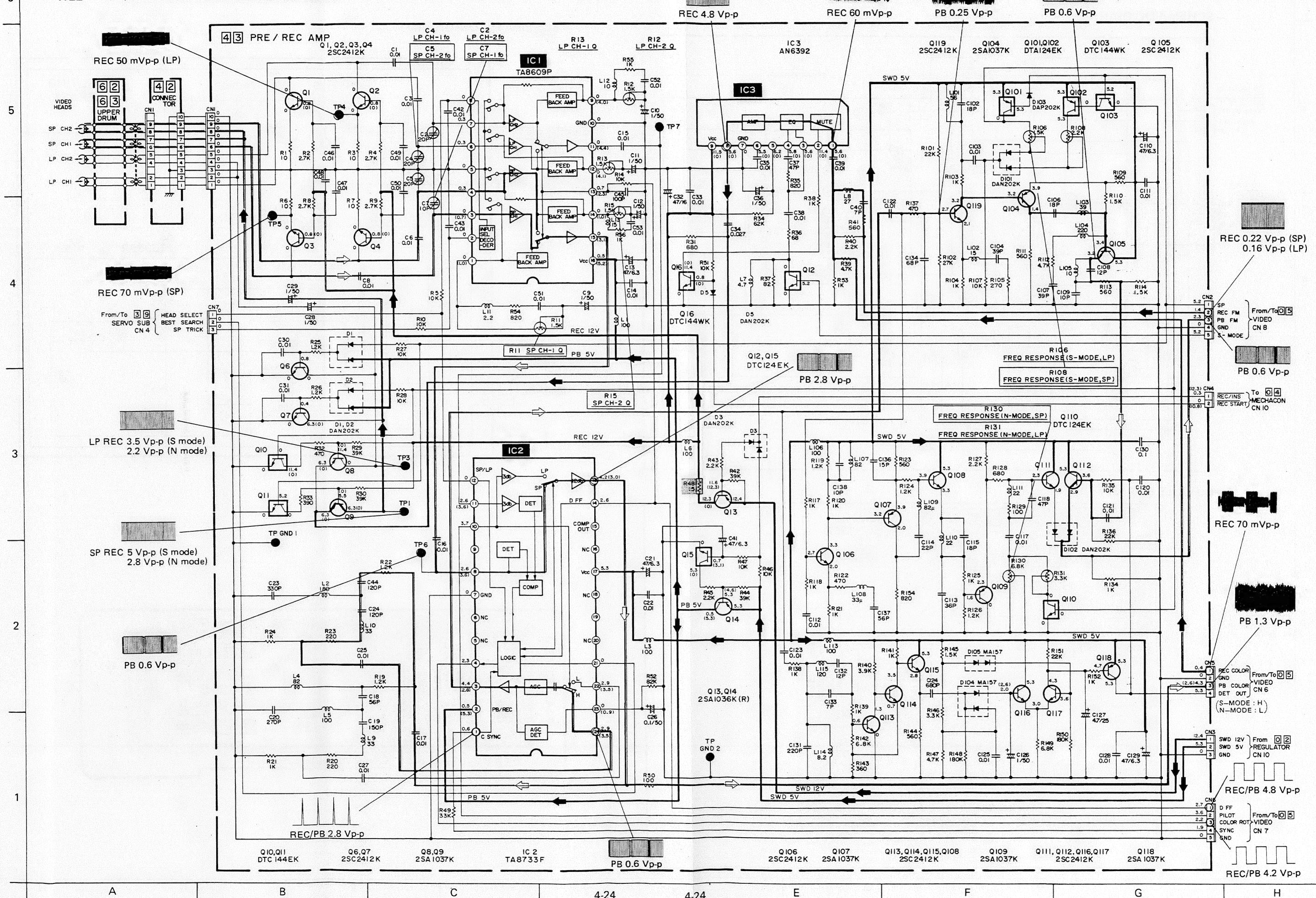


#### 4.21 FLYING ERASE SCHEMATIC DIAGRAM AND CIRCUIT BOARD

---

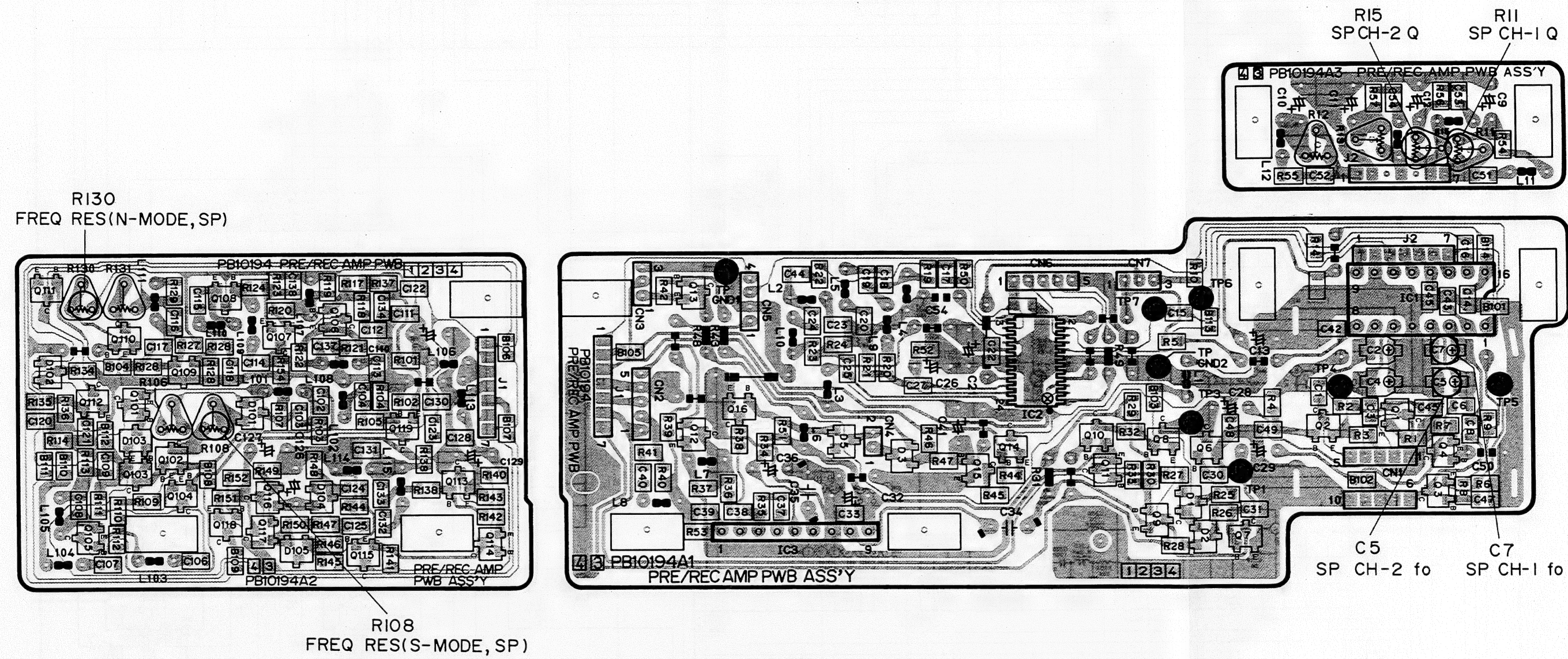






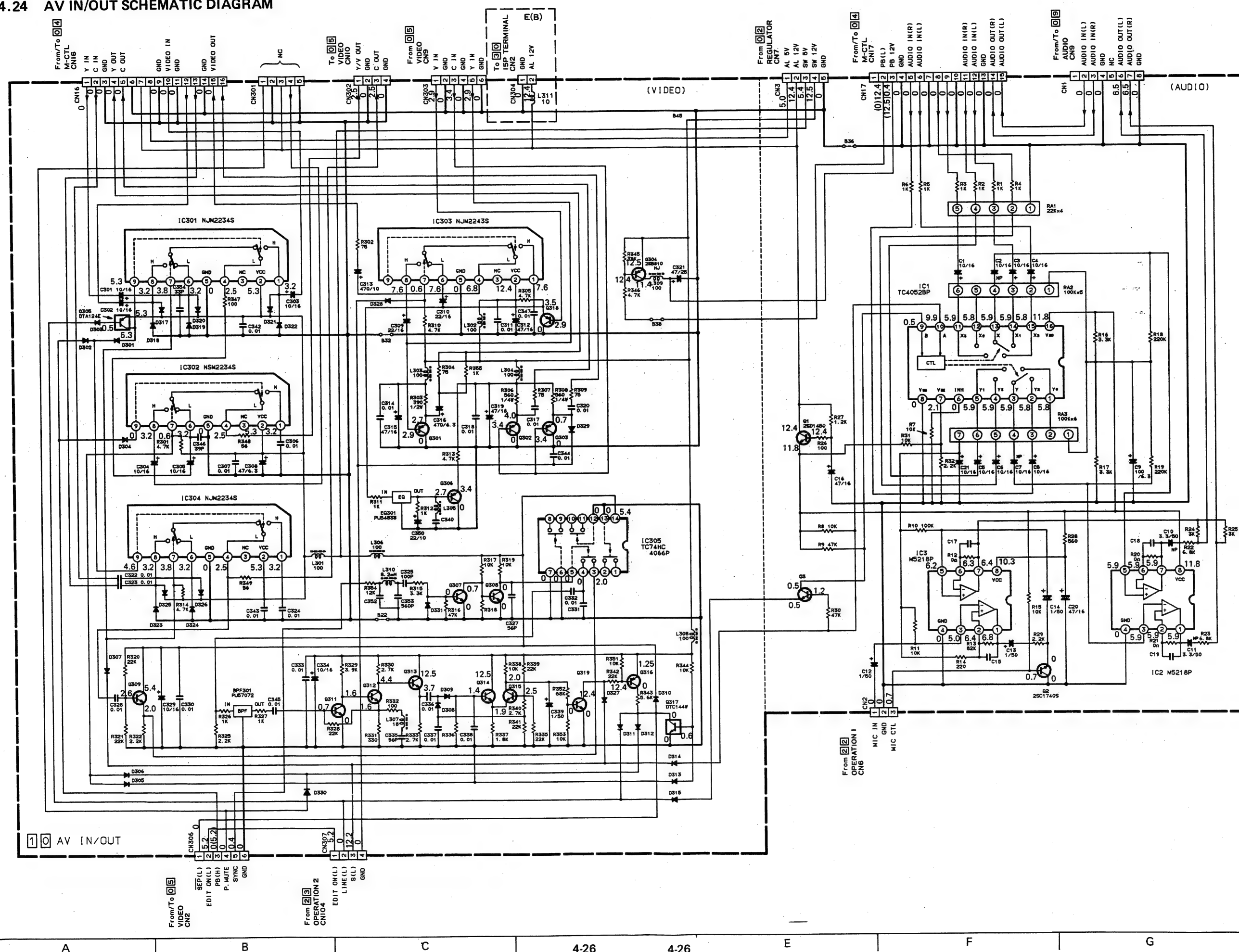


4.23 PRE/REC AMP CIRCUIT BOARD





# 4.24 AV IN/OUT SCHEMATIC DIAGRAM

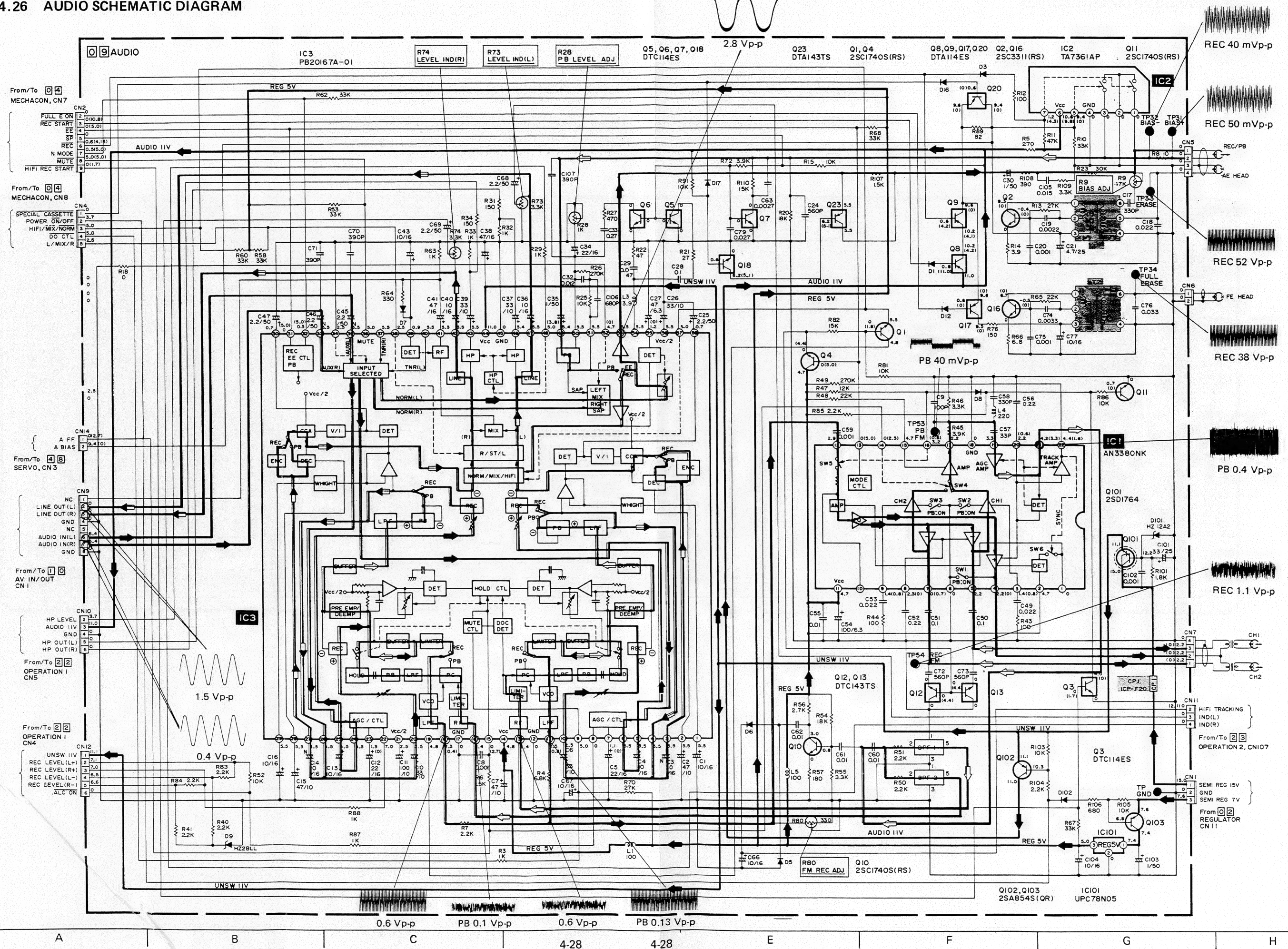






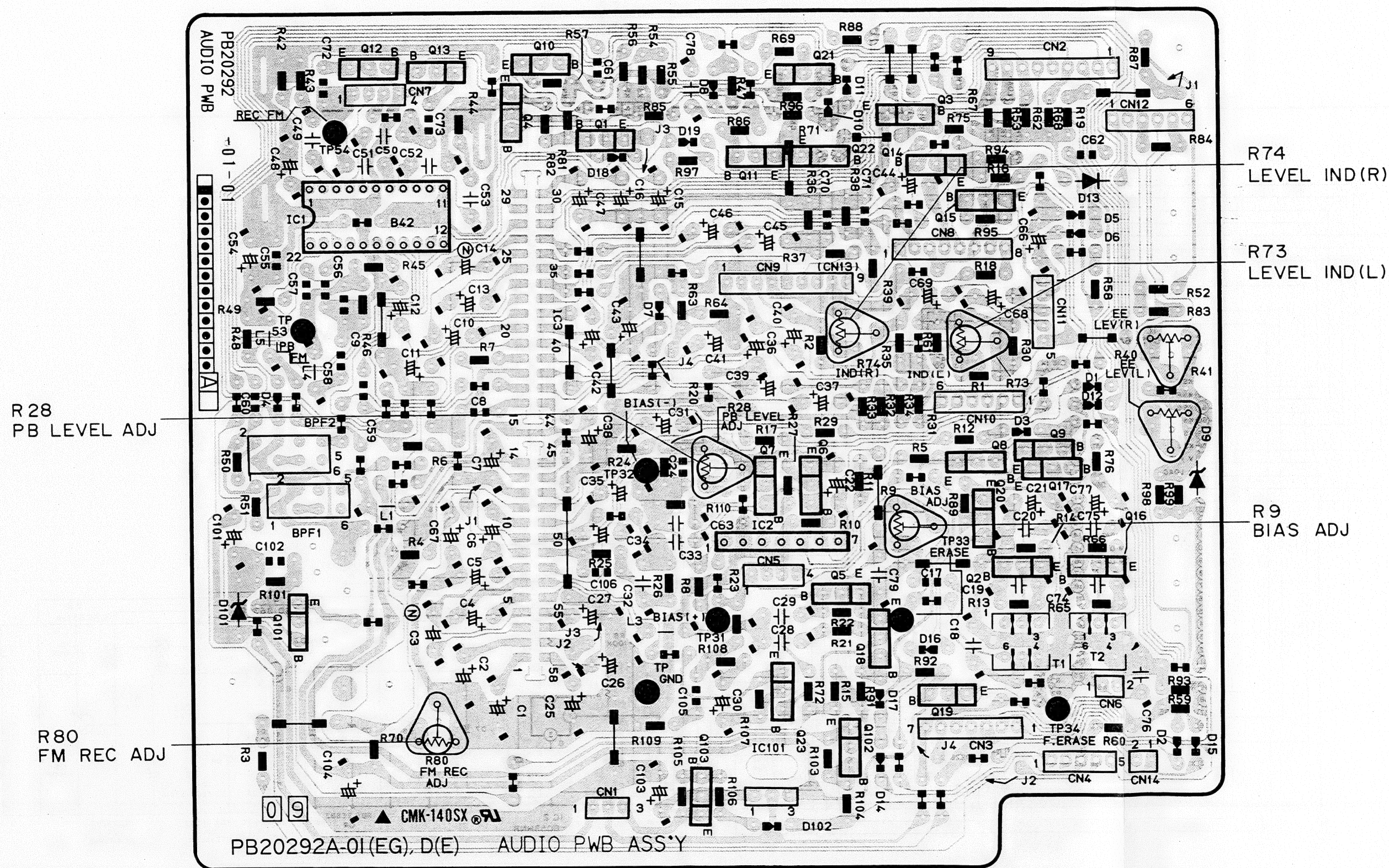


# 4.26 AUDIO SCHEMATIC DIAGRAM





# 4.27 AUDIO CIRCUIT BOARD



6

# 4.28 TIMER SCHEMATIC DIAGRAM

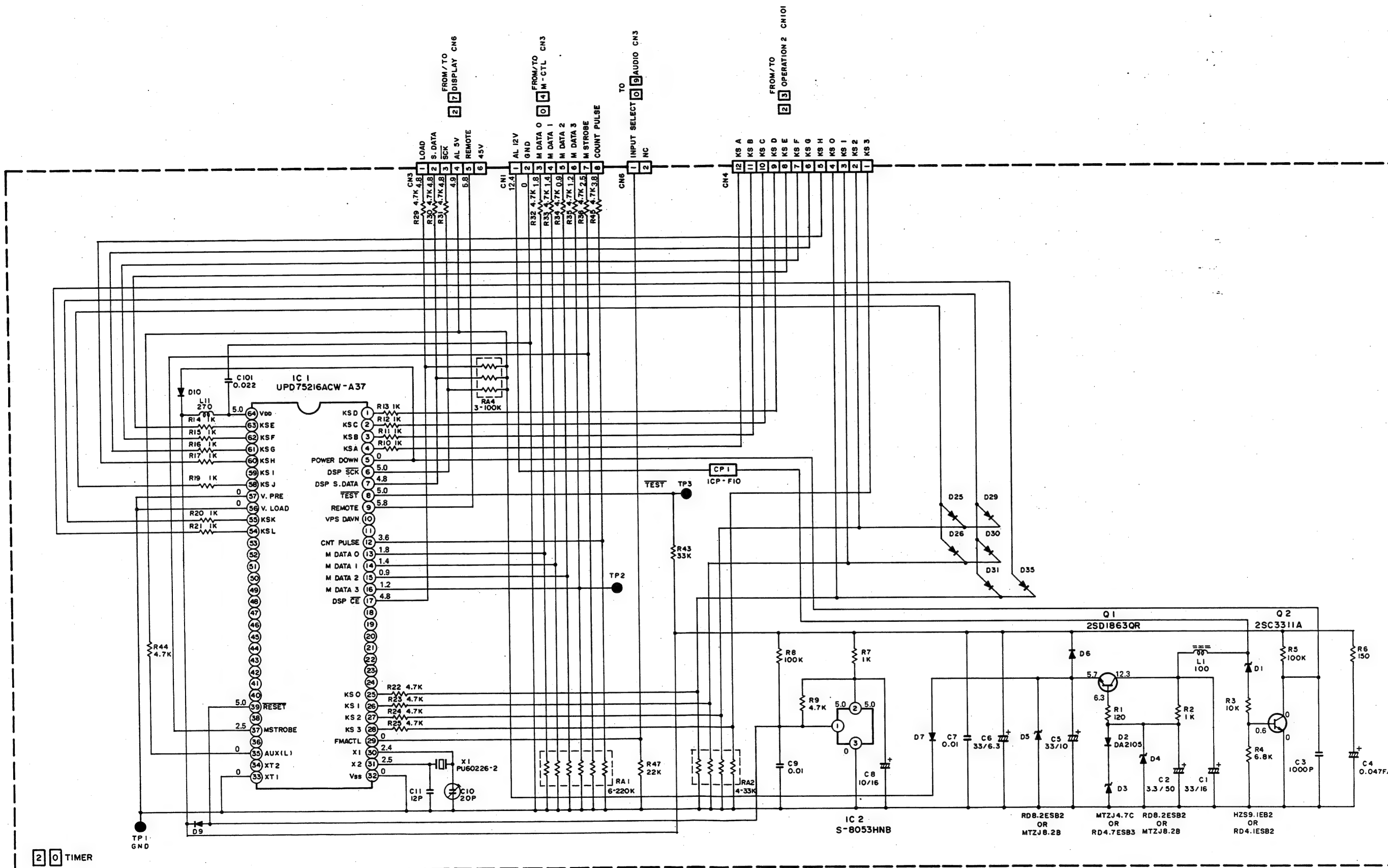
5

4

3

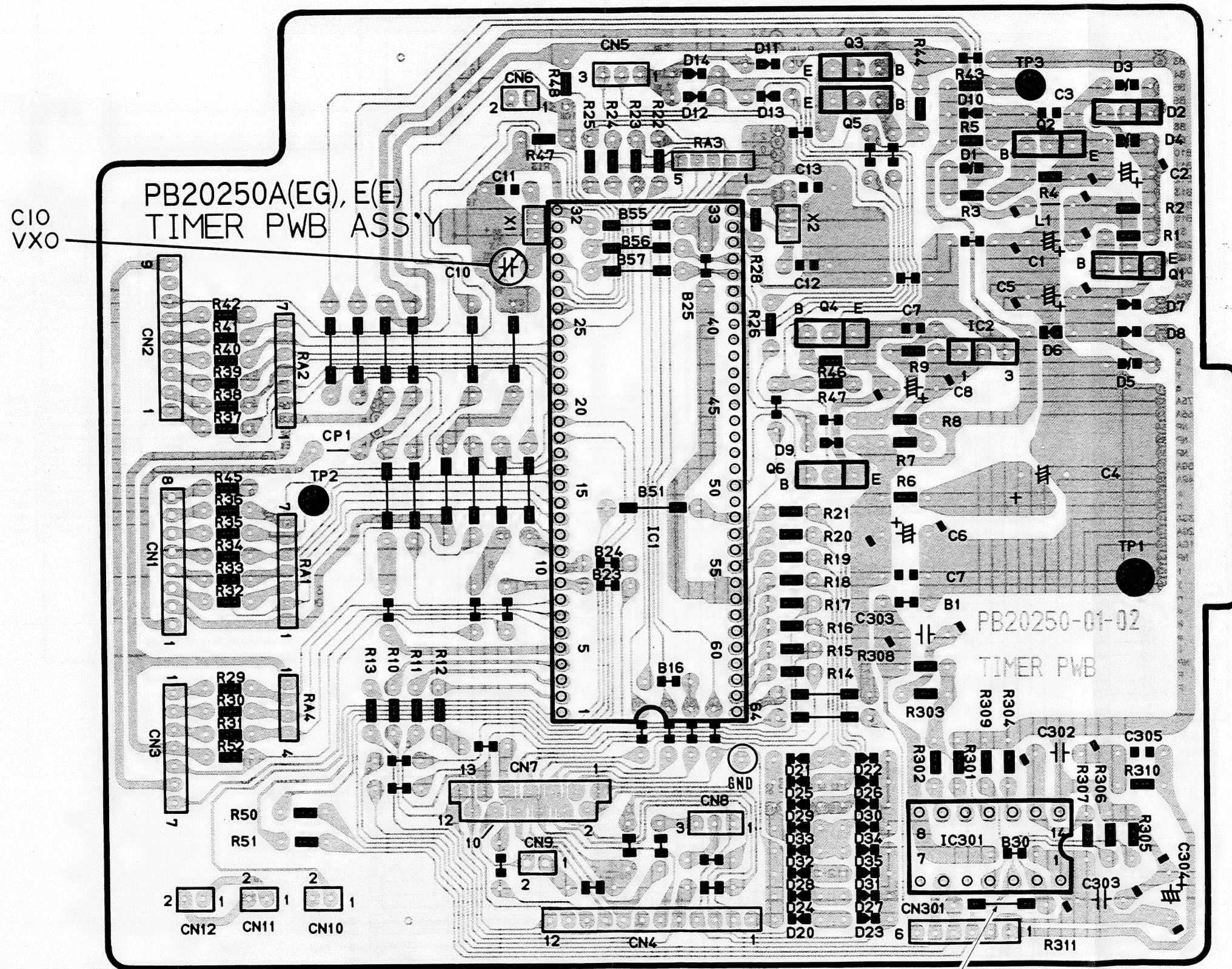
2

1





# 4.29 TIMER CIRCUIT BOARD

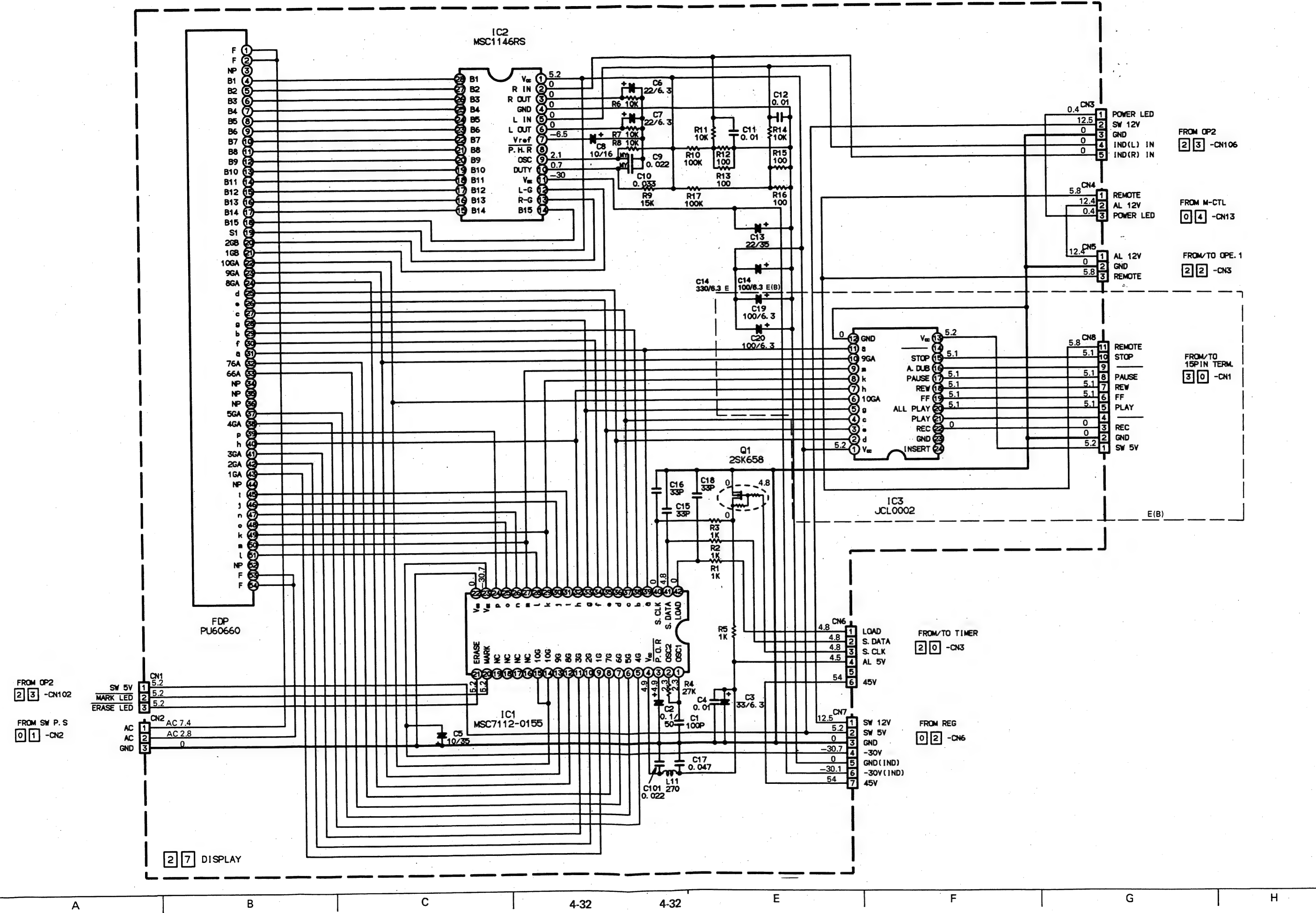


Note: This bus wire brings on a malfunction in the timer-play mode. If this bus wire is still installed in the set (the set whose serial number is #610 or before is equipped with it), make sure to remove it.



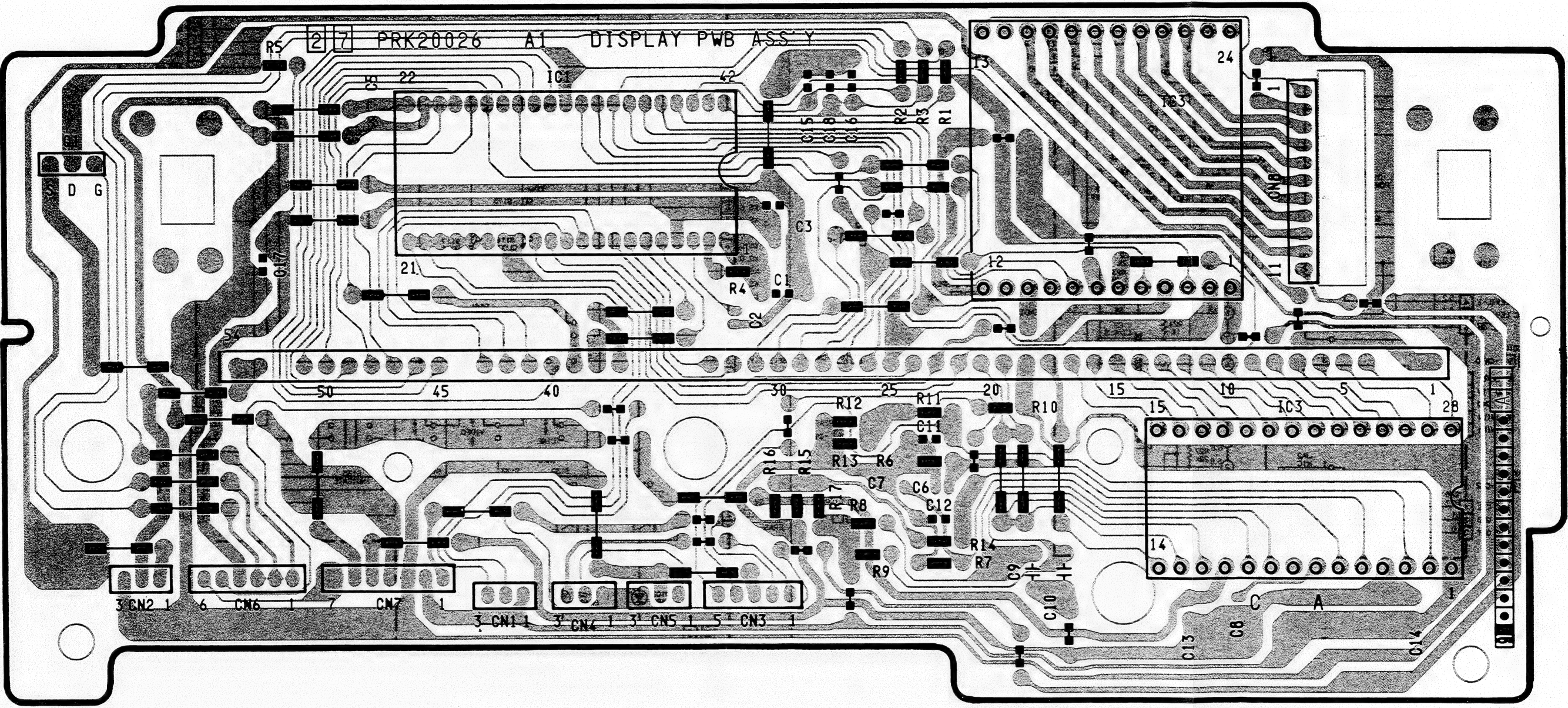
6  
5  
4  
3  
2  
1

4.30 DISPLAY SCHEMATIC DIAGRAM



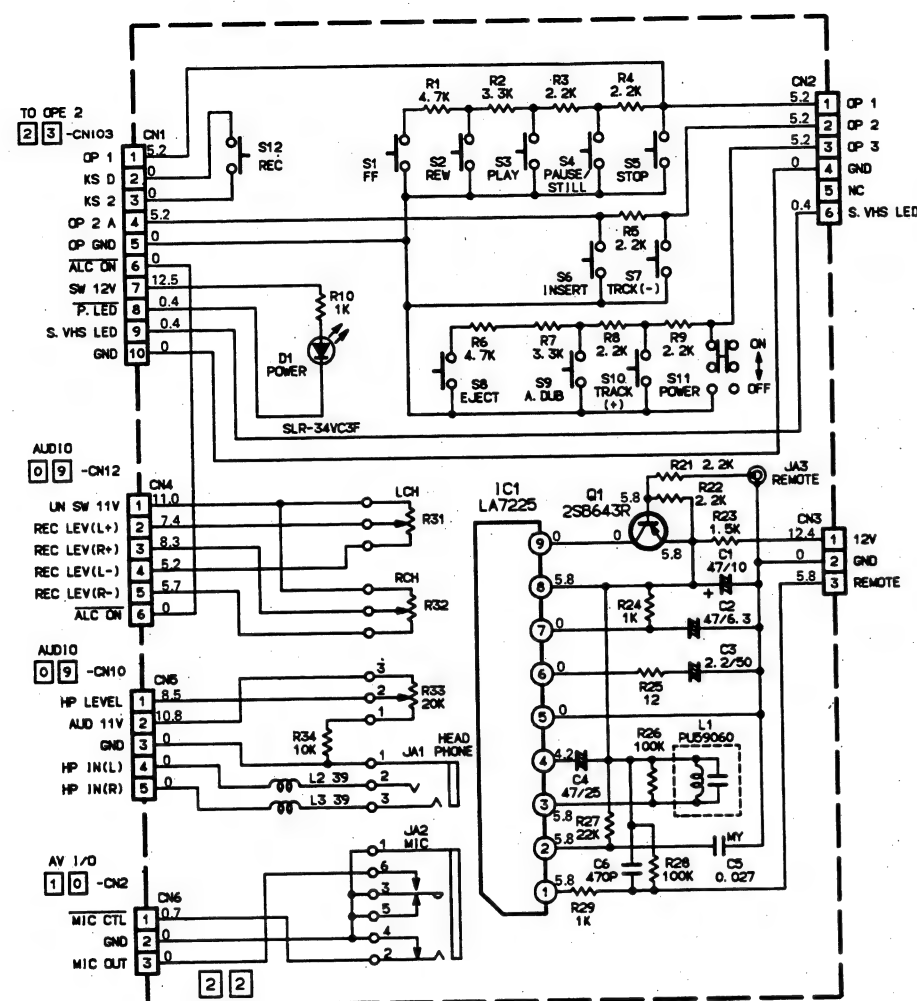


4.31 DISPLAY CIRCUIT BOARD





# 4.32 OPERATION 1, 2 SCHEMATIC DIAGRAMS



TO M. CTL  
0 4 -CH12

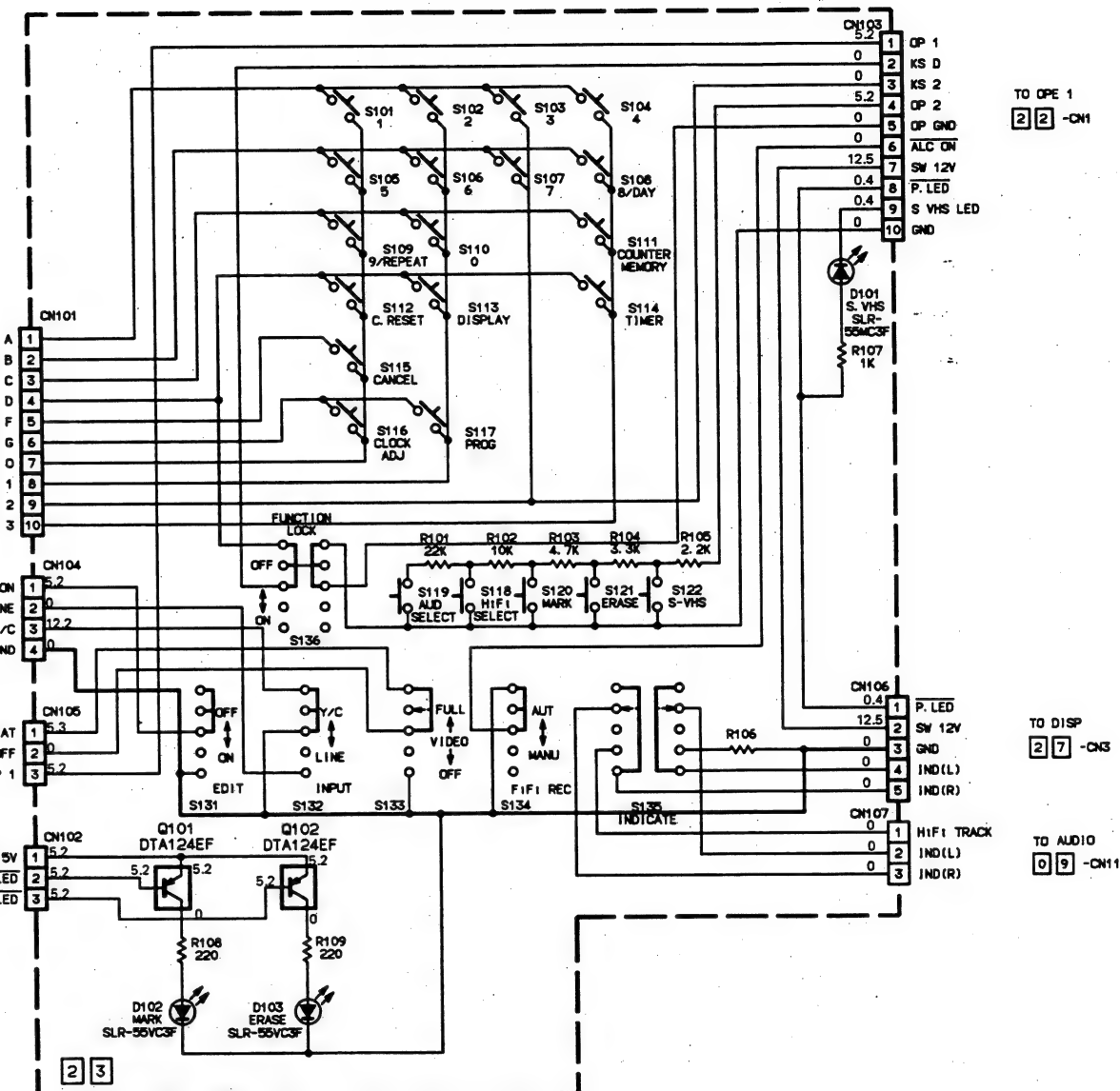
TO DISPLAY  
2 7 -CH5

TO TIMER  
2 0 -CH4

AV I/O  
1 0 -CH307

TO REPEAT  
2 8 -CH1

TO DISP  
2 7 -CH1



TO OPE 1  
2 2 -CH1

TO DISP  
2 7 -CH5

TO AUDIO  
0 9 -CH11



4



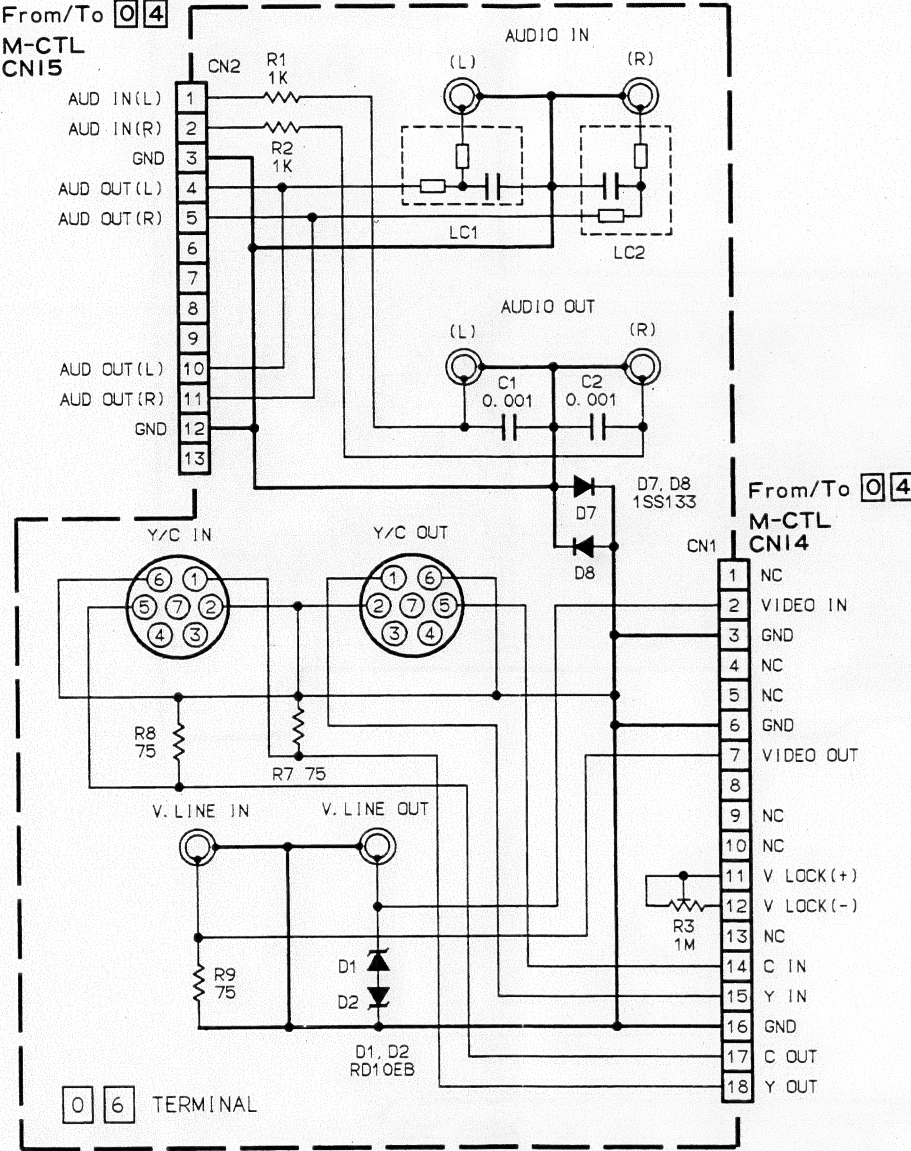
2



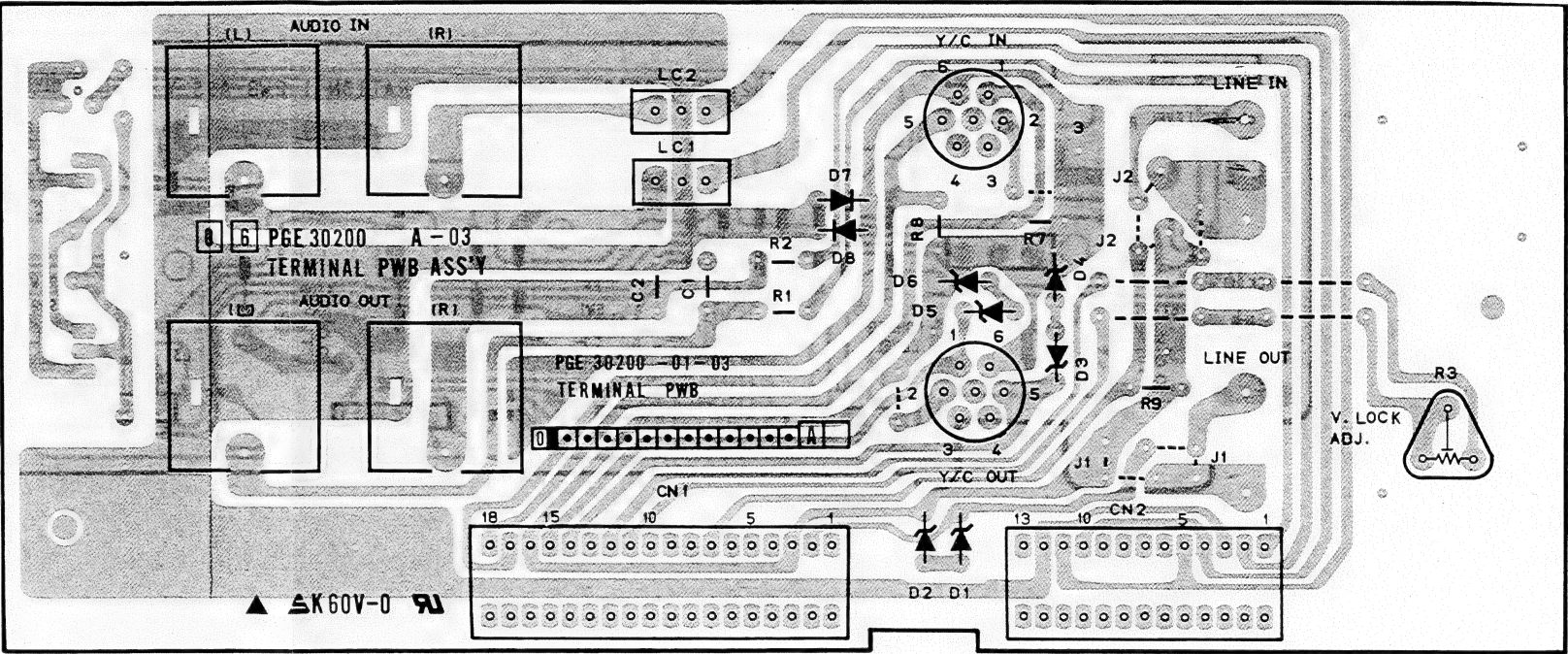


4.34 TERMINAL SCHEMATIC DIAGRAM AND CIRCUIT BOARD

— SCHEMATIC DIAGRAM —



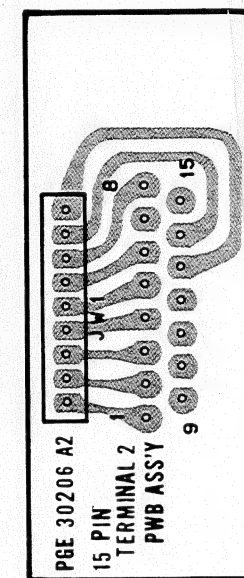
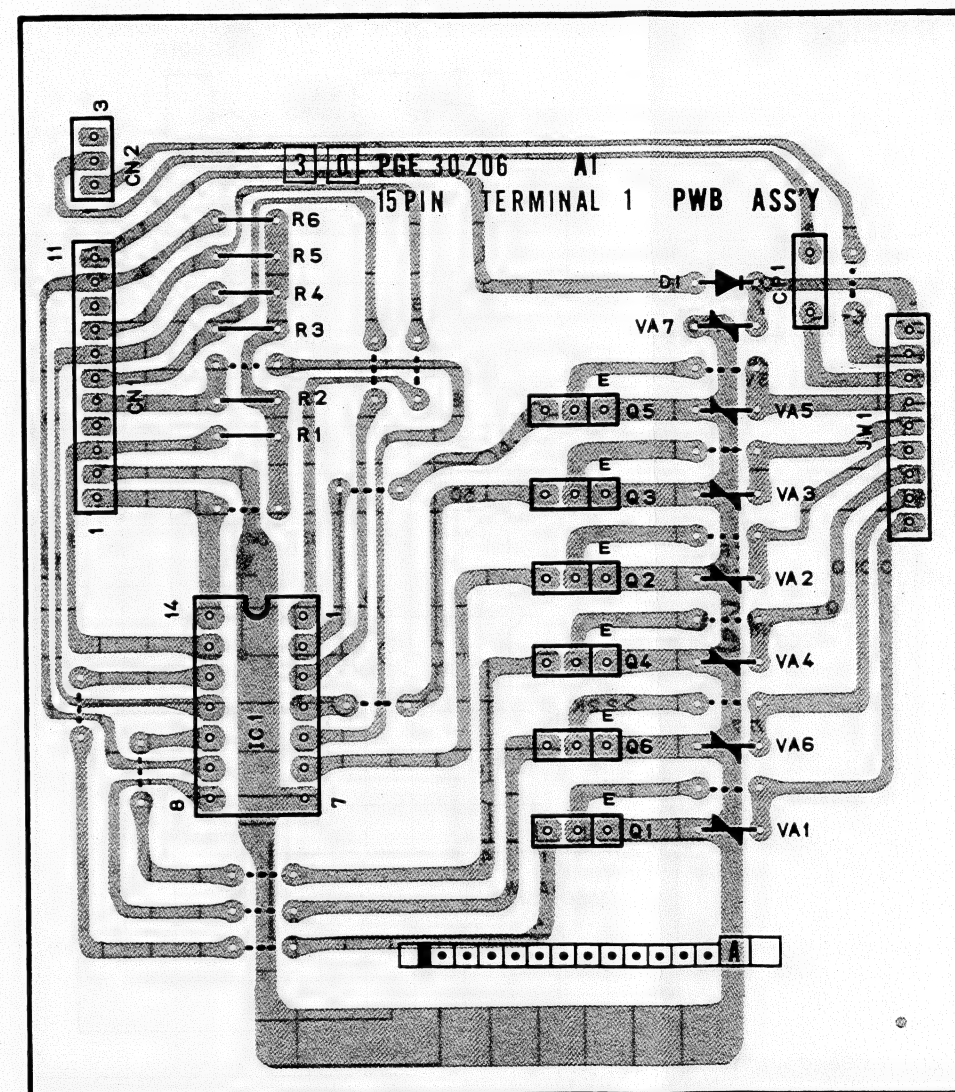
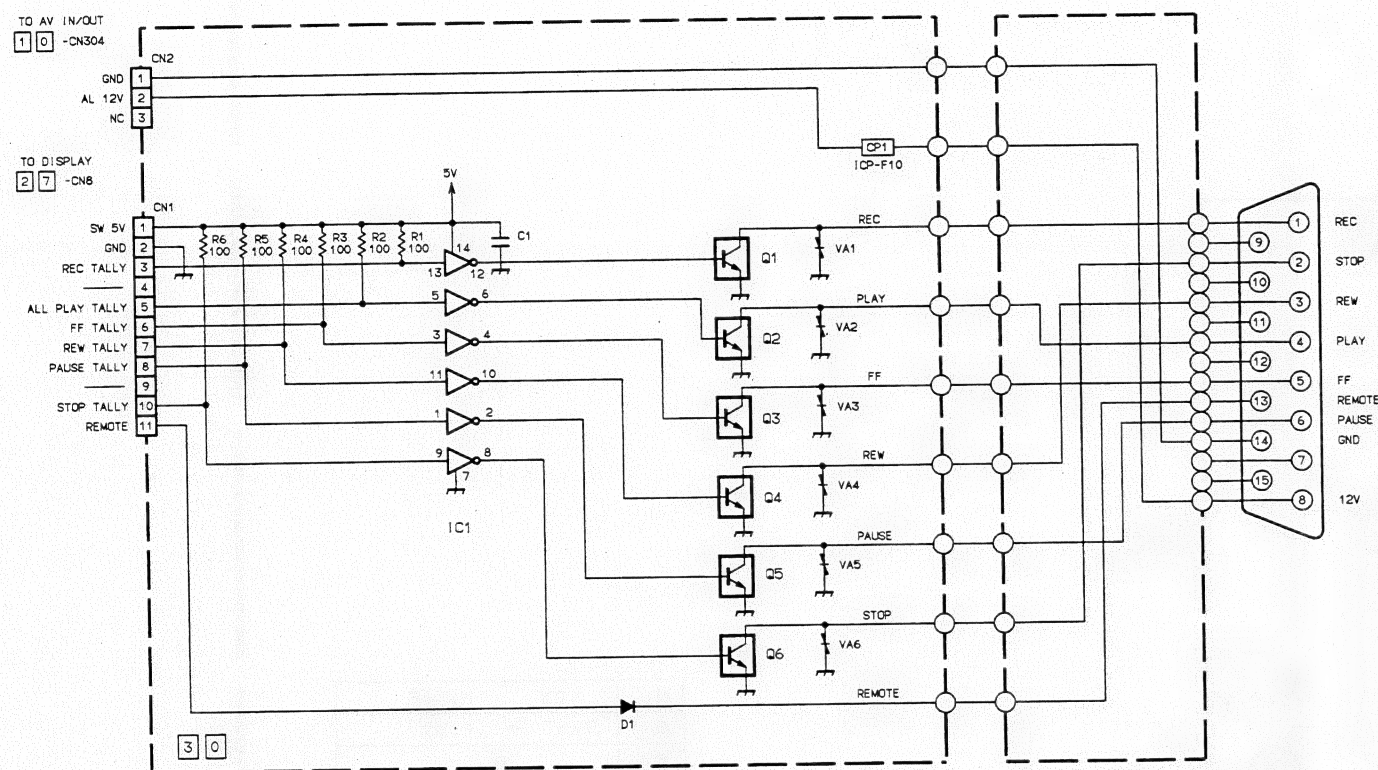
— CIRCUIT BOARD —





# 4.35 15 PIN TERMINAL SCHEMATIC DIAGRAM AND CIRCUIT BOARD

Note: The following circuit diagram and circuit board show BR-S600E(B).



## 6

5



**B**

4-38

4-38

**E**

**F**

**G**

H

## SECTION 5

### EXPLODED VIEWS AND PARTS LIST

#### SAFETY PRECAUTION

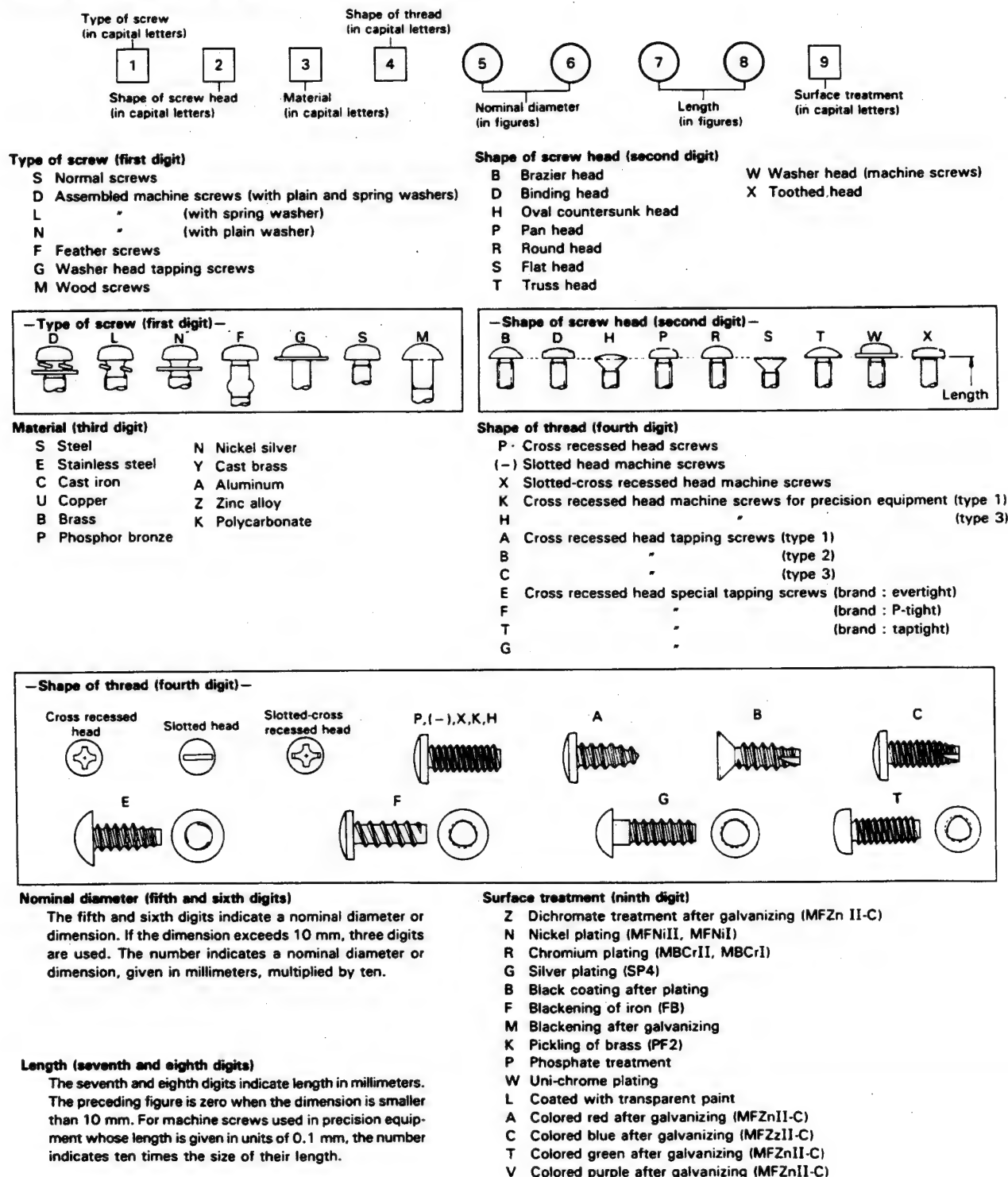
Parts identified by the  $\triangle$  symbol are critical for safety. Replace only with specified part numbers.

NOTE: [M ] indicates mechanical symbol number.

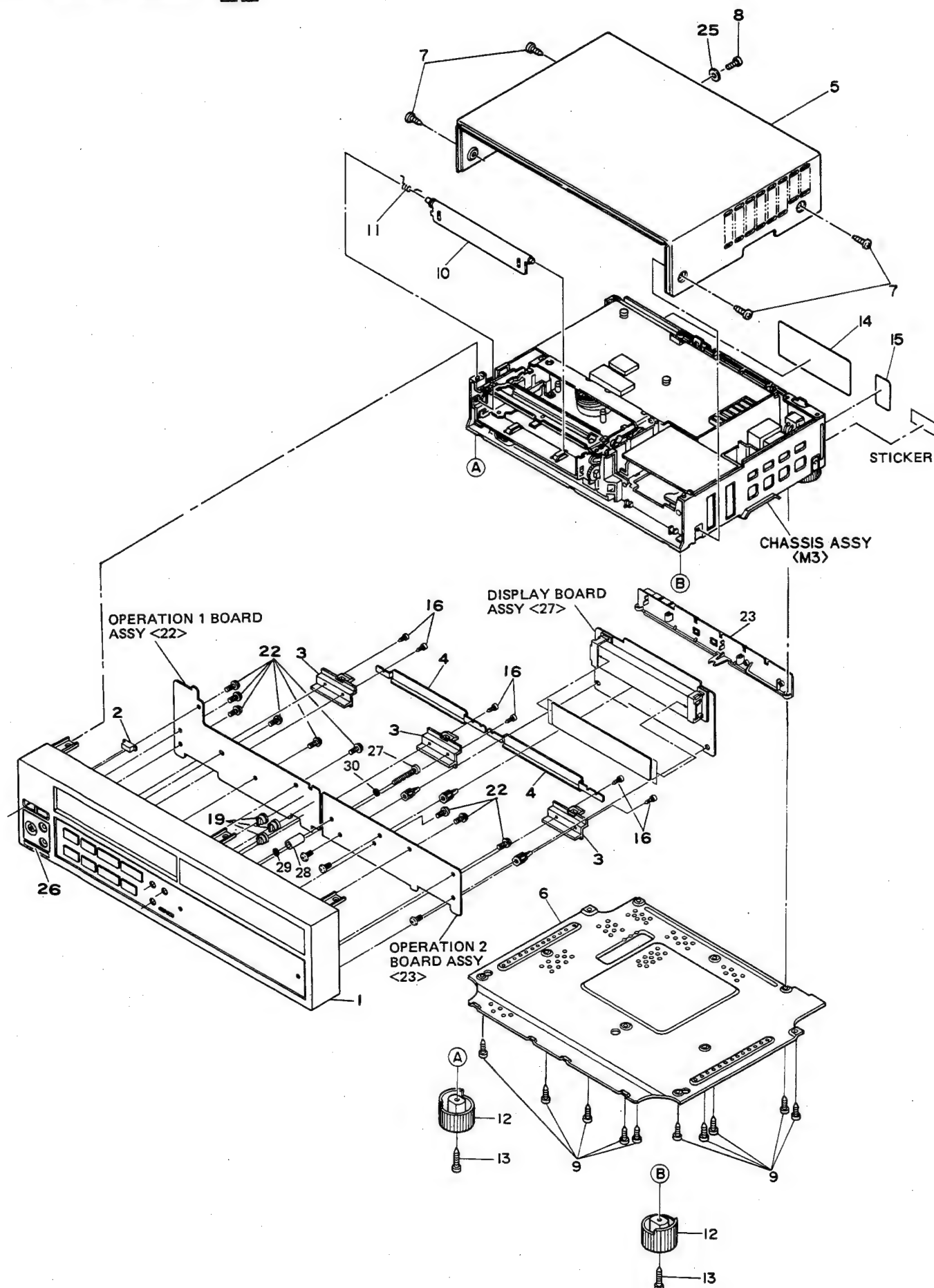
#### 5.1 STANDARD PART NUMBER CODING

##### 5.1.1 Screw coding

Standard screw part numbers are as follows.



## 5.2 CABINET ASSEMBLY **M2**





REF NO.	PART NO.	PART NAME, DESCRIPTION
1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18
19	20	21
22	23	24
25	26	27
28	29	30
31	32	33
34	35	36
37	38	39
40	41	42
43	44	45
46	47	48
49	50	51
52	53	54
55	56	57
58	59	60
61	62	63
64	65	66
67	68	69
70	71	72
73	74	75
76	77	78
79	80	81
82	83	84
85	86	87
88	89	90
91	92	93
94	95	96
97	98	99
100	101	102
103	104	105
106	107	108
109	110	111
112	113	114
115	116	117
118	119	120
121	122	123
124	125	126
127	128	129
130	131	132
133	134	135
136	137	138
139	140	141
142	143	144
145	146	147
148	149	150
151	152	153
154	155	156
157	158	159
160	161	162
163	164	165
166	167	168
169	170	171
172	173	174
175	176	177
178	179	180
181	182	183
184	185	186
187	188	189
190	191	192
193	194	195
196	197	198
199	200	201
202	203	204
205	206	207
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211	212	213
214	215	216
217	218	219
220	221	222
223	224	225
226	227	228
229	230	231
232	233	234
235	236	237
238	239	240
241	242	243
244	245	246
247	248	249
250	251	252
253	254	255
256	257	258
259	260	261
262	263	264
265	266	267
268	269	270
271	272	273
274	275	276
277	278	279
280	281	282
283	284	285
286	287	288
289	290	291
292	293	294
295	296	297
298	299	300
301	302	303
304	305	306
307	308	309
310	311	312
313	314	315
316	317	318
319	320	321
322	323	324
325	326	327
328	329	330
331	332	333
334	335	336
337	338	339
340	341	342
343	344	345
346	347	348
349	350	351
352	353	354
355	356	357
358	359	360
361	362	363
364	365	366
36		

```

*****
*      2. CABINET ASSEMBLY <M2>      *
*****

```

1	PRD10089G-11	FRONT PANEL ASSY
2	PRD42471-01-02	KNOB (POWER)
3	PRD30333-01-02	FRONT LOCK ,X3
4	PRD30400	COVER BRACKET ,X2
5	PQ10545-7	TOP COVER
6	PQ10706-1-4	BOTTOM COVER
7	PGD30030-07	SCREW, X4
8	SDSF3010R	SCREW
9	SDSF3008Z	SCREW, X10
10	PRD30470	CASSETTE HOUSING DOOR
11	PQ42410-1-1	TORSION SPRING
12	PQ43703A-1	FOOT ASSY, X2
13	SDSF3012Z	SCREW, X2
14	PGD30307-15	RATING LABEL, BR-S600E
15	PGD30307-16	RATING LABEL, BR-S600E(B)
16	PRD42735-01-01	REAR SHEET
17	SBSF2610Z	SCREW, X6
18	PGD40750-03	VR KNOB, X3
19		
20		
21		
22	SDSF2608Z	SCREW, X9
23	PQ20727-3	JACK BOARD, BR-S600E
24	WBS3000N	WASHER
25	PQ40111-1-5	SERIAL NO.PLATE
26	SPSP3014Z	SCREW
27	PRD30026-35	COLLAR
28	PUM30017-5	SLIT WASHER
29	PQM30017-4	SLIT WASHER
30		

#	REF NO.	PART NO.	PART NAME, DESCRIPTION
-----			
*****			

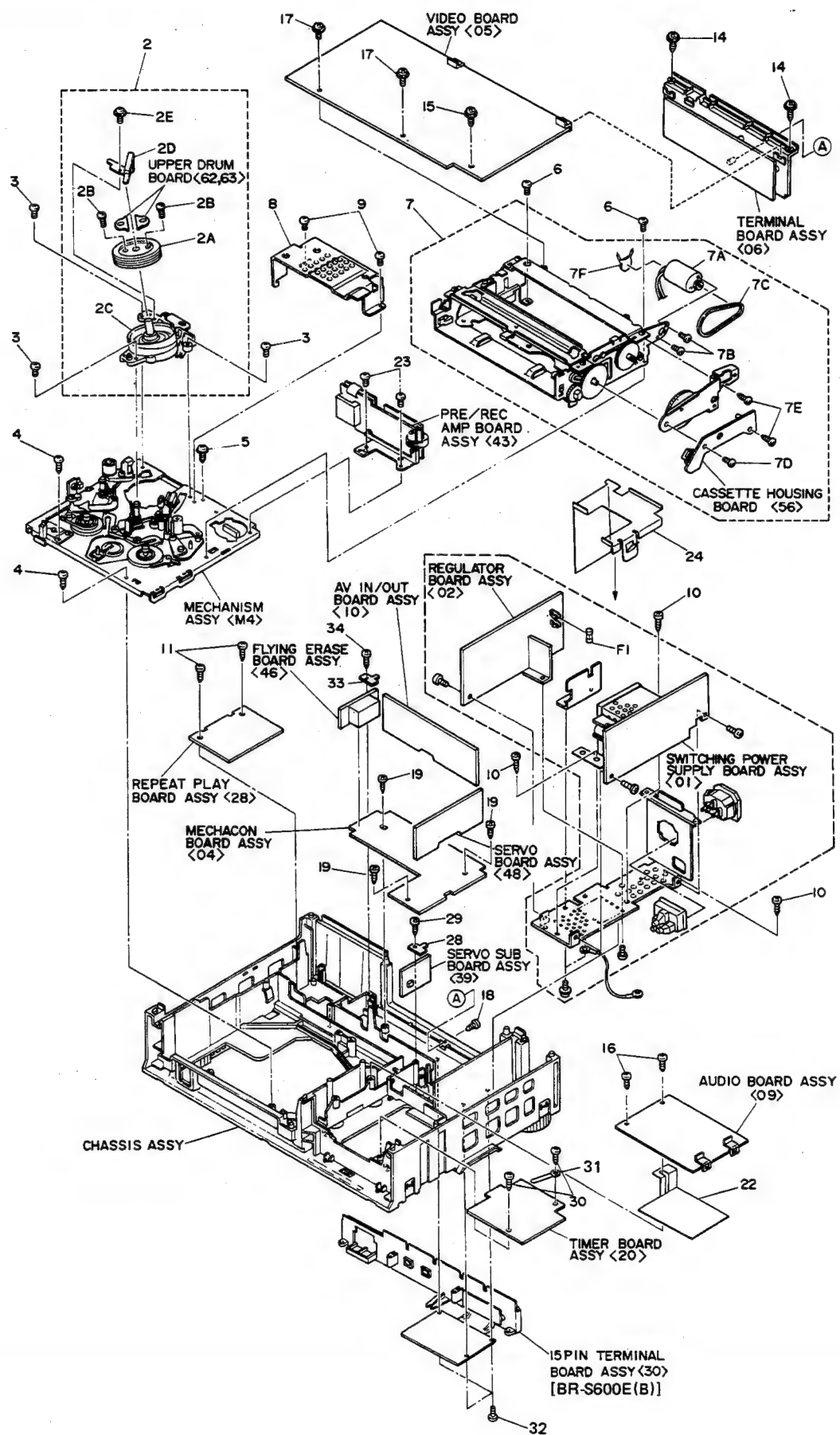
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*****
*      3. CHASSIS ASSEMBLY <M3>      *
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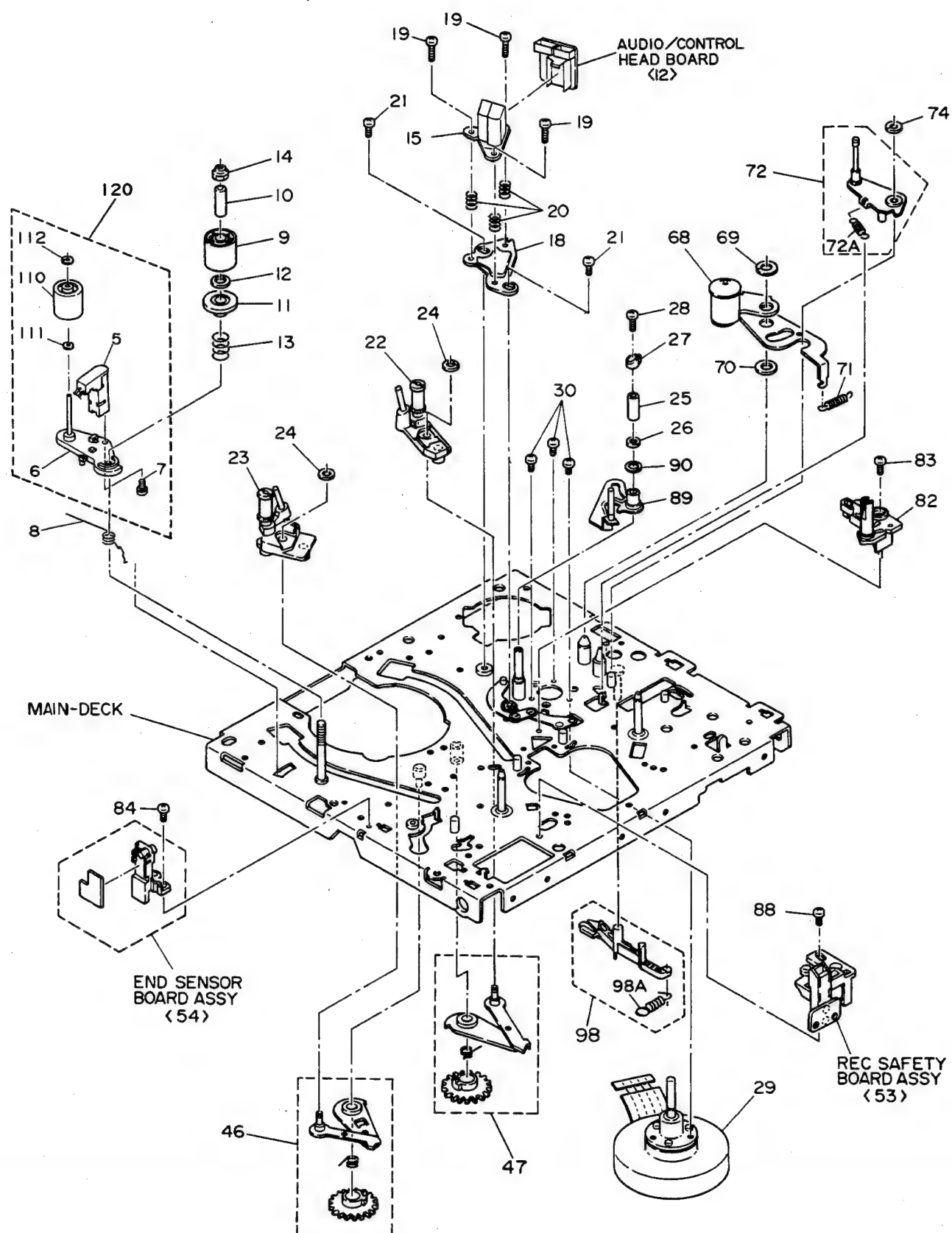
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2A	PDM2119A	UPPER DRUM ASSY
2B	PDM4165A	SCREW, X2
2C	PDM2113C	LOWER DRUM MOTOR ASSY
2D	PDM4015B	BRUSH ASSY
2E	LPSP2606Z	SCREW
3	SDSP2608Z	SCREW, X3
4	PQ43831-2	SPECIAL SCREW, X2
5	PQ43831-2	SPECIAL SCREW
6	SDST2605Z	SCREW, X2
7	PUS28277H	CASSETTE HOUSING ASSY
7A	PQ42385A	MOTOR ASSY (CASSETTE)
OR	PQ42385B	MOTOR ASSY (CASSETTE)
7B	SPSP2603Z	SCREW, X2
7C	PQM30003-19	CASSETTE BELT
7D	SPSP2604Z	SCREW
7E	SPST2605Z	SCREW, X2
7F	DV710SR223M16	VARISTOR
8	PQ31171-5	DRUM SHIELD
9	SDST2605Z	SCREW, X2
10	PQ43831-2	SPECIAL SCREW, X3
11	SDSF3008Z	SCREW, X2
14	GPSF2610Z	SCREW, X2
15	GPSF2610Z	SCREW
16	SDSF3008Z	SCREW, X2
17	PQ44003	SCREW, X2
18	SDSF3010M	SCREW
19	SDSF3008Z	SCREW, X3
22	PQ32255A	SHILD PLATE ASSY
23	SDST2605Z	SCREW, X2
24	PQ32578	AC COVER
28	PQ43714	BRACKET
29	SDSF3008Z	SCREW
30	SDSF3008Z	SCREW, X2
31	PU49485-4	WIRE CLAMP
32	SDSF3008Z	SCREW, X3 BR-S600E(B)
33	PQ43714	BRACKET
34	SDSF3008Z	SCREW

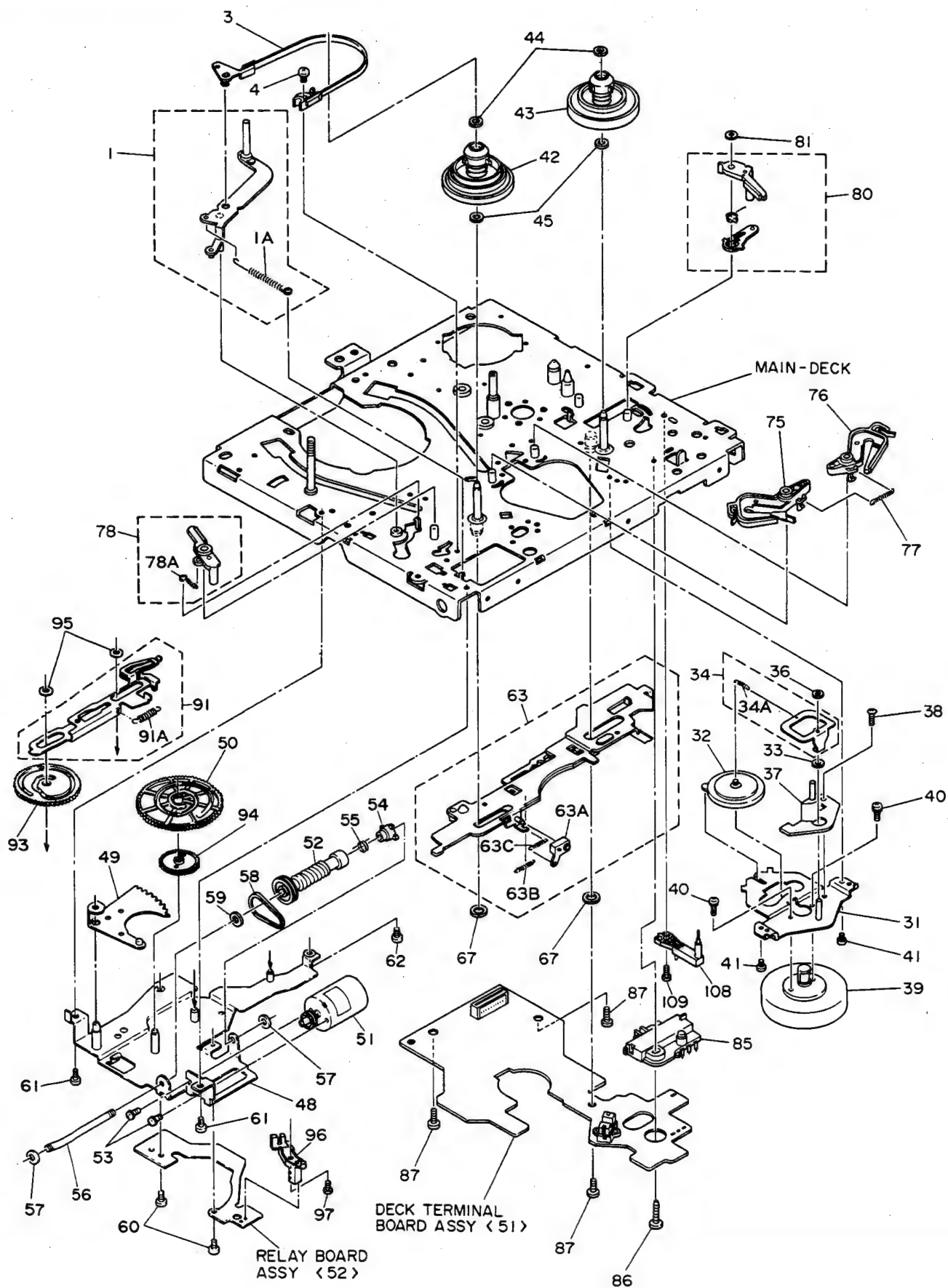
### 5.3 CHASSIS ASSEMBLY **M3**



## 5.4 MECHANISM ASSEMBLY (1) **M** 4



# MECHANISM ASSEMBLY (2) **M 4**

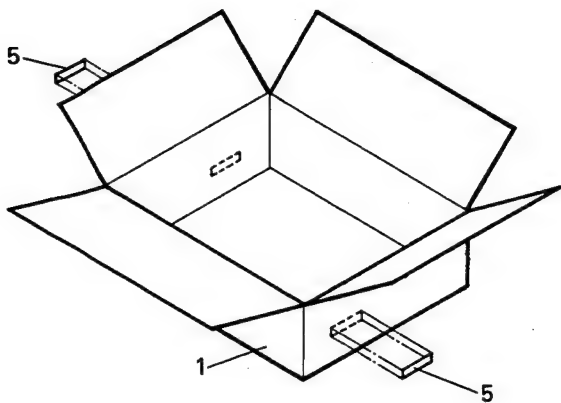


#	REF NO.	PART NO.	PART NAME, DESCRIPTION
*****			
*****			
* 4. MECHANISM ASSEMBLY <M4> *			
*****			
1		PQ43710A	TENSION ARM ASSY
1A		PQ41952-5	SPRING
3		PQ41948A	TENSION BAND ASSY
4		SDST2606Z	SCREW
5		PU60646	FULL ERASE HEAD
6		PQ43299A-2	FULL ERASE HEAD SUB ASSY
7		LPSP2004Z	SCREW
8		PQ41954-1-1	TORSION SPRING
9		PQ41955	IMPEDANCE ROLLER
10		PQ41956	COLLAR
11		PQ41957	LOWER FLANGE
OR		PQ42958	LOWER FLANGE
12		PQM30018-39	SPACER
OR		PQM30018-50	SPACER
13		PQM30002-124	COMPRESSION SPRING
14		PQ40353	NYLON NUT
15		PU60560-2	AUDIO/CONTROL HEAD
18		PQ42984-2	HEAD BASE
19		PQ43687A	SCREW, X3
20		PU30080-49	SPRING, X3
21		SDSP2606Z	SCREW, X2
22		PGZ01143	POLE BASE ASSY (TAKE-UP)
OR		PU59994	POLE BASE ASSY (TAKE-UP)
OR		PQ43148A	POLE BASE ASSY (TAKE-UP)
23		PU60556-1-2	POLE BASE ASSY (SUPPLY)
OR		PU59993	POLE BASE ASSY (SUPPLY)
OR		PQ43147A	POLE BASE ASSY (SUPPLY)
24		PQM30017-5	SLIT WASHER, X2
25		PU53629-3	TAPE GUIDE
26		PQ40268-2	GUIDE FLANGE
27		PRD42612	GUIDE POLE CAP
28		SDSP2006Z	SCREW
29		PU60201V	CAPSTAN MOTOR
30		SPSP2605N	SCREW, X3
31		PQ41974A-3	REEL MOTOR BRACKET ASSY
32		PU58645-1-4	IDLER ARM
33		Q03093-834	WASHER
34		PQ41976A-1	SPRING ARM ASSY
34A		PQ42212-1-4	SPRING
36		PQM30017-22	SLIT WASHER
37		PQ41978	HOLDER
38		SPST2606Z	SCREW
39		PU59926V	REEL MOTOR
40		LPSP2604Z	SCREW, X2
41		SPST2606Z	SCREW, X2
42		PU59250-1-2	REEL DISK (SUPPLY)
43		PU58638-1-2	REEL DISK (TAKE-UP)
44		PQM30017-5	SLIT WASHER, X2
45		Q03093-828	WASHER, X2
46		PQ41979A-5	LOADING ARM ASSY (SUPPLY)
47		PQ41985B-3	LOADING ARM ASSY (TAKE-UP)
48		PQ42973A	CAM BRACKET ASSY
49		PQ41994A-3	ARM GEAR ASSY
50		PQ20577	CONTROL CAM

#	REF NO.	PART NO.	PART NAME, DESCRIPTION
51		PQ41996B	MODE MOTOR ASSY
OR		PQ41996C	MODE MOTOR ASSY
52		PQ41998A	WORM ASSY
53		LPSP2604Z	SCREW, X2
54		PQ42001	WINDMILL
55		PQ42002	CLUTCH SPRING
56		PQ42003	WORM SHAFT
57		PQM30017-5	SLIT WASHER, X2
58		PQM30003-20	BELT
59		PQM30018-22	SPACER
60		SPST2606Z	SCREW, X2
61		SPST2606Z	SCREW, X2
62		LPSP2604Z	SCREW
63		PQ42038C	PLATE ASSY
63A		PQ31044-1-2	LOCK LEVER
63B		PQM30001-223	TENSION SPRING
63C		PQM30001-211	TENSION SPRING
67		PQM30017-28	SLIT WASHER, X2
68		PQ42006B	PINCH ROLLER ARM ASSY
69		PQM30017-28	SLIT WASHER
70		Q03093-833	WASHER
71		PQM30001-229	TENSION SPRING
72		PQ42013B-4	GUIDE ARM ASSY
72A		PQ42029	SPRING
74		PQM30017-6	SLIT WASHER
75		PQ42019B-6	MAIN BRAKE ASSY (SUPPLY)
76		PQ42020B	MAIN BRAKE ASSY (TAKE-UP)
77		PQM30001-216	TENSION SPRING
78		PQ42021A-3	SUB BRAKE ASSY (SUPPLY)
78A		PQ42023-1-2	TENSION SPRING
80		PQ42037A-2	SUB BRAKE ASSY (TAKE-UP)
81		PQM30017-6	SLIT WASHER
82		PU59925-1-1	LED HOLDER, INCLUDE LED
83		SPST2606Z	SCREW
84		SPST2606Z	SCREW
85		PU60444	SLIDE ENCODER
86		SDSP2610Z	SCREW
87		SDSP2606Z	SCREW, X3
88		SDST2606Z	SCREW
89		PRD42685A	HALF LOADING ARM ASSY
90		PQM30017-29	SLIT WASHER
91		PQ42974A	SLIDE CAM PLATE ASSY
91A		PQM30001-224	SPRING
93		PQ31677	HALF LOADING CAM
94		PQ42963	SECOND GEAR
95		PQM30017-24	SLIT WASHER, X2
96		PU61088	REEL SENSOR (S)
97		LPSP2604Z	SCREW
98		PQ43295A-1	MOTOR BRAKE ASSY
98A		PQ43296	SPRING
108		PU59919-1-1	CASSETTE SWITCH
109		SDST2608Z	SCREW
110		PQ43298A	ROLLER ASSY
111		Q03093-829	WASHER
112		PQM30017	SLIT WASHER
120		PQ43330B-2	FULL ERASE HEAD ASSY



## M 1



XX

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*****
*      1. PACKING ASSEMBLY <M1>      *
*****

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1      PRD20162-05-05  PACKING CASE
2      PRD10091A-03    CUSHION ASSY
3      PU57777         WADDING PAD
4      PQM30021-70     POLY BAG
5      PUP40329        SERIAL NO.STICKER, X2

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6 UM-4NJ2P BATTERY. 2CELLS

6	UM-4NJ2P	BATTERY, 2CELLS
7	PGZ00418	REMOTE CABLE
8	QPGA020-02003	POLY BAG
10	PGD30002-192	INSTRUCTIONS,BR-S600E(B)
	PGD30002-185	INSTRUCTIONS,BR-S600E
11	QPGA025-03505	POLY BAG
12	PGZ01065B	REMOTE CONTROLLER
13	PRD30335	SWITCH COVER
14	PRD42441	STOPPER, X2
15	PUM30017-6	SPACER, X2
16	QPGA020-03005	POLY BAG

## SECTION 6 ELECTRICAL PARTS LIST

### SAFETY PRECAUTION

Parts identified by the  $\triangle$  symbol are critical for safety. Replace only with specified part numbers.

### ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS:

**RESISTORS**— All resistance values are in ohms ( $\Omega$ ), unless otherwise indicated.

k	: 1,000 (Kilo)
M	: 1,000,000 (Mega)
Chip R	: Chip Resistor
Chip VR	: Chip Variable Resistor
Comp. R	: Composition Resistor
CR	: Carbon Film Resistor
FR	: Fusible Resistor
MFR	: Metal Film Resistor
MPR	: Metal Plate Resistor
OMR	: Oxide Metal Film Resistor
PMR	: Precision Metal Film Resistor
UFR	: Unflammable Resistor
VR	: Variable Resistor (Potentiometer)
WR	: Wire Wound Resistor

**CAPACITORS**—All capacitance values are in  $\mu\text{F}$ , unless otherwise indicated.

pF	: $\mu\text{F}$ (Pico farad)
C Cap	: Ceramic Capacitor
Chip Cap	: Chip Capacitor
Chip T Cap	: Chip Tantalum Capacitor
E Cap	: Electrolytic Capacitor
FM Cap	: Film Mica Capacitor
LL Cap	: Low Leak Current Electrolytic Capacitor
MM Cap	: Metalized Mylar Capacitor
MP Cap	: Metalized Paper Capacitor
MY Cap	: Mylar Capacitor
NP Cap	: Non-polar Capacitor
PC Cap	: Polycarbonate Capacitor
PP Cap	: Polypropylene Capacitor
PS Cap	: Polystyrol Capacitor
T Cap	: Tantalum Capacitor
TF Cap	: Thin Film Capacitor
TR Cap	: Trimmer Capacitor

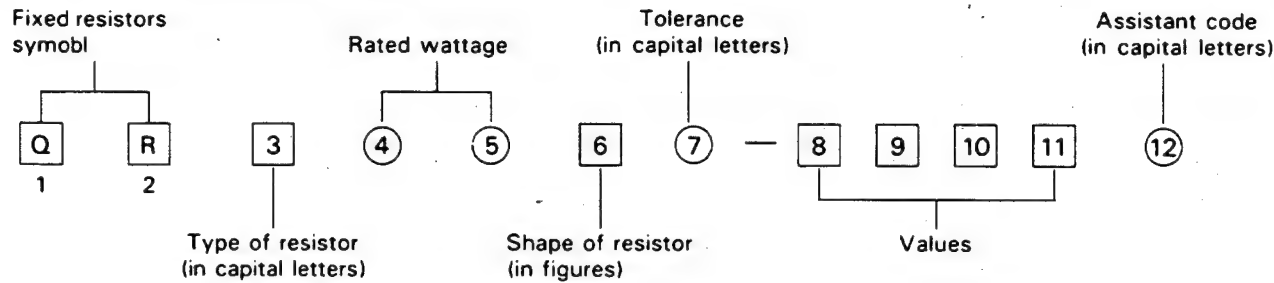
### NOTES:

- [2 digits] indicates circuit board symbol number.
- "X " indicates quantity per set.

6.1 STANDARD PART NUMBER CODING

6.1.1 Fixed resistor coding

Fixed resistor part numbers are as follows.



Type of resistor (third digit)	Rated wattage (fourth and fifth digits)	Tolerance (seventh digit)	Assistant code (twelfth digit)
C Composition resistors	A0 1/10 W	F ± 1 %	A Small type
D Carbon film resistors	18 1/8 W	G ± 2 %	B Small type
F Unflammable resistors	16 1/6 W	J ± 5 %	S Small type
G Oxide metal film resistors	14 1/4 W	K ± 10 %	Y Lead taping
H Fusible resistors	12 1/2 W	M ± 20 %	Z Lead taping
M Metal plate resistors	01 1 W		
S Metal glazed resistors	02 2 W		
V Precision metal film resistors	03 3 W		
W Wire wound resistors	04 4 W		
X Metal film resistors	05 5 W		
Z Special resistors	06 6 W		
	07 7 W		
	75 7.5 W		
	08 8 W		
	10 10 W		
	15 15 W		
	A6 16 W		
	20 20 W		
	30 30 W		

**Values (eighth – tenth or eleventh digits)**  
examples:

R47	0.47 Ω
4R7	4.7 Ω
470	47 × 10 <sup>0</sup> Ω
471	47 × 10 <sup>1</sup> Ω
472	47 × 10 <sup>2</sup> Ω
473	47 × 10 <sup>3</sup> Ω
474	47 × 10 <sup>4</sup> Ω
475	47 × 10 <sup>5</sup> Ω

QRV resistance shown by four digits:

4640	464 × 10 <sup>0</sup> Ω
4641	464 × 10 <sup>1</sup> Ω
4642	464 × 10 <sup>2</sup> Ω

Shape of resistor (sixth digit)

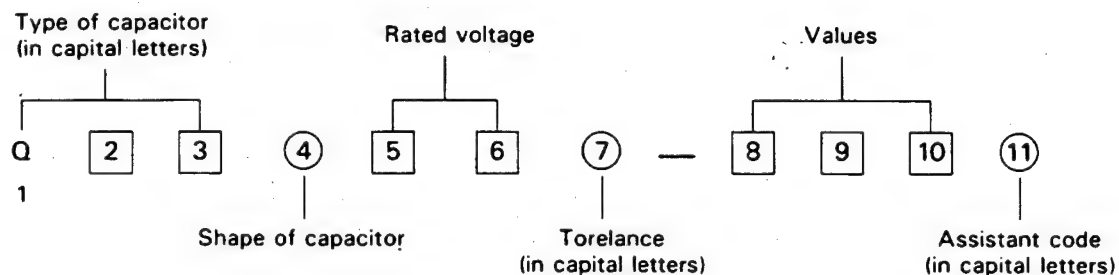
Note:  indicates flame retardant resistor.

Shape of resistor	Type of resistor	C	D	F	G	H	M	S	V	W	X
1											
2											
3											
4											
5										(L) type	
6											
7				Lug (B) type							
8				Lug (A) type							
9				Lug (C) type							



## 6.1.2 Fixed capacitor coding

Fixed capacitor part numbers are as follows.



### Ceramic capacitors

Type of capacitor (first – third digits)		Shape of capacitor (fourth digit)				
Symbol	Characteristics	Mono-direction	Kink lead	Axial lead	Axial forming lead	Chip
QCC	Ceramic	1		4	5	
QCD	High capacitance					A
QCF	High capacitance	1,4	3			8,A
QCS	Temperature compensation	1	3	4	5	8,A
QCT	Temperature compensation	Special coding				
QCV	Ceramic			1	3	
QCX	Ceramic			1	3	
QCY	High capacitance	1,4	3	6	7	8,A
QCZ	Special type	Special coding				
QCB	Ceramic			B	C	

### Electrolytic capacitors

Type of capacitor (first-third digits)		Shape of capacitor (fourth digit)				
Symbol	Characteristics	Tubular	Mono-direction	Anti-stress	Forming	Snap-in
QEB	Low leakage		4	5	6	
QEC	Low leakage		4,8,A	9,B	6,C	
QEE	Tantalum (normal)		4	5	6	
	Tantalum (small)		8			
QEF	Chip tantalum	8 (chip type)				
QEG	Low impedance		4			
QEK	Miniature type		4	5	6	
QEL	Small type		4	5	6	7
QEM	Small type		4,A	5	6	
QEN	Non-polar	2	4	5	6	
QEP	Non-polar (small)		4,A	5,B	6,C	
QER	Miniature type		4	5	6	
QET	Small type	2	4,A	5,B	6,C	7
QEU	Small type		4	5	6	
QEV	Small type		4		6	7
QEW	Normal	2	4	5	6	7

## Paper film capacitors

Type of capacitor (first – third digits)		Shape of capacitor (fourth digit)				
Symbol	Characteristics	Tubular	Normal		Flame retardant	
			Mono-direction	Kink lead	Mono-direction	Kink lead
QFA	Metalized polypropylene				7	
QFE	Metalized mylar				5	
QFF	Film mica		4			
QFG	Polypropylene film		4	8		
QFH	Metalized mylar	2	4	3	5,7	6
QFJ	Mylar (special)		4			
QFK	Metalized mylar (small)				5	
QFM	Mylar	2	4	3,7	5	6
QFN	Mylar (small)		4	3		
QFP	Polypropylene		4	3,8		
QFS	Polystyrole	2	4	3		
QFV	Thin film		4	8		
QFZ	Special type	Special coding				

## Rated voltage (fifth and sixth digits)

Sixth digit Fifth digit	A	B	C	D	E	F	G	H	J	K	V	W	X
0						3.15	4.0		6.3				
1	10		16	20	25		40	50	63	80	35		
2	100	125	160	200	250	315	400	500	630		350	450	600
3	1000	1250		2000				5000					

## Tolerance (seventh digit)

A	+ 100 % - 10 %	M	± 20 %
F	± 1 %	N	± 30 %
G	± 2 %	P	+ 100 % - 0 %
H	+ 50 % - 10 %	R	+ 30 % - 10 %
J	± 5 %	X	+ 40 % - 20 %
K	± 10 %	Z	+ 80 % - 20 %

## Values (eighth – tenth digits)

Example : Values are in picofarads

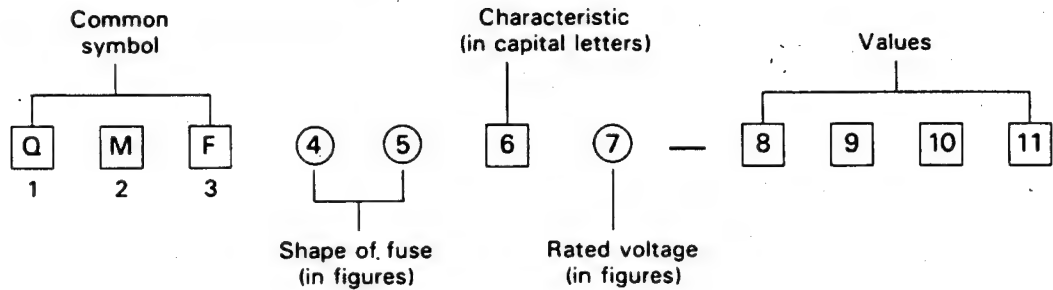
101	..... $10 \times 10^1$ pF	100 pF
102	..... $10 \times 10^2$ pF	1,000 pF (0.001 $\mu$ F)
103	..... $10 \times 10^3$ pF	10,000 pF (0.01 $\mu$ F)
104	..... $10 \times 10^4$ pF	100,000 pF (0.1 $\mu$ F)
105	..... $10 \times 10^5$ pF	1 $\mu$ F
5R0	.....	5.0 pF

## Assistant code (eleventh digit)

G	Small size
Z	Lead tapping
Y	Lead tapping

### 6.1.3 Fuse coding

Standard fuse part numbers are as follows.



#### Shape of fuse (fourth and fifth digits)

51	φ5.2 × 20 mm
60	φ6.4 × 30 mm
61	φ6.35 × 31.8 mm
63	φ6.4 × 30 mm with lead wires
66	φ6.35 × 31.8 mm with lead wires
00	Special type

#### Rated voltage (seventh digit)

1	AC125 V
2	AC250 V
3	0.1 – 1 A : AC250 V 1.25 – 6.3 A : AC125 V

#### Values

(eighth-tenth or eleventh digits)

example:

R63	.....	0.63 A
1R0	.....	1.0 A
2R5	.....	2.5 A
100	.....	10 A
R315	.....	0.315 A
1R25	.....	1.25 A

#### Characteristics (sixth digit)

Symbol	Fusing Current	Fusing Time	Remarks
A	210 %	Within 2 min.	Anti-rush type (for Europe)
	275 %	0.6 – 10 sec.	
	400 %	0.15 – 3 sec.	
	1000 %	0.02 – 0.3 sec.	
B	210 %	Within 30 min.	Regular fusible type (for SEMKO, Europe)
	275 %	0.05 – 2 sec.	
	400 %	0.01 – 0.3 sec.	
C	135 %	Within 1 hr.	Regular fusible type (for UL, Japan)
	200 %	Within 2 min.	
E	210 %	Within 2 min.	Anti-rush type (for Europe)
	275 %	0.6 – 10 sec.	
	400 %	0.15 – 3 sec.	
	1000 %	0.02 – 0.3 sec.	
J	135 %	Within 1 hr.	Anti-rush type
	200 %	Within 2 min.	
M	135 %	Within 1 hr.	Regular fusible type (for UL)
	200 %	Within 2 min.	
R	160 %	Within 1 hr.	Regular fusible type
	200 %	Within 2 min.	
S	160 %	Within 1 hr.	Anti-rush type
	200 %	Within 2 min.	
	700 % – 2000 %	Within 0.01 sec.	
U	135 %	Within 1 hr.	Anti-rush type (for UL)
	200 %	Within 2 min.	
	800 % – 2000 %	Within 0.01 sec.	



## 6.2 ELECTRICAL PARTS LIST

REF NO.	PART NO.	PART NAME, DESCRIPTION
C35	QETB1EM-108	E CAPACITOR
C36	QETB1EM-108	E CAPACITOR
C37	QETB1AM-108	E CAPACITOR
C38	QETC1JM-226	E CAPACITOR
C39	QETC1HM-226	E CAPACITOR
C40	QFL41HJ-102	M CAPACITOR
C41	QFL41HJ-102	M CAPACITOR
L11	PU56183-330	COIL
L12	PU56183-330	COIL
L13	PU56183-330	COIL
L14	PU48530-101K	COIL
L15	PU48530-101K	COIL
L16	PU48530-8R2K	COIL
L17	PU48530-8R2K	COIL
T1	PU60683	SWITCHING TRANSFORMER
HS2	PU60798	HEAT SINK
HS3	PQ43231-1-1	HEAT SINK(3)
LF2	PU60347	LINE FILTER
SLD1	PQ32558-1-1	SHIELD CASE(1)
CN1	PU58844-9	CAP HOUSING
CN2	PU58844-3	CAP HOUSING
-REGULATOR BOARD ASSEMBLY <02>-		
PWBA2	PGE10134A2	REGULATOR BOARD ASSY
STK1	PU44457	STICKER
IC2	BA10324	IC
IC3	MC7805ACT	IC
IC101	M54647L	IC
Q11	2SD1764	TRANSISTOR
OR	2SD1796	TRANSISTOR
Q12	2SC1740S	TRANSISTOR
Q13	2SD1764	TRANSISTOR
OR	2SD1796	TRANSISTOR
Q14	2SD1764	TRANSISTOR
OR	2SD1796	TRANSISTOR
Q15	2SD1764	TRANSISTOR
OR	2SD1796	TRANSISTOR
Q16	2SB1186(DE)	TRANSISTOR
Q17	2SA720	TRANSISTOR
Q18	DTA114ES	TRANSISTOR
D16	RD6.2ES-T1B3	ZENER DIODE
D17	RD5.1ES-T1B2	ZENER DIODE
D19	HZ6B1TE	DIODE
OR	HZ6B1TJ	DIODE
D20	RD13ES-T1B3	DIODE
D21	HZS33EB1	ZENER DIODE
D23	1SS133	DIODE
OR	MA165	DIODE
D24	1SS133	DIODE
OR	MA165	DIODE
D25	1SS133	DIODE
OR	MA165	DIODE
D26	1SS133	DIODE
OR	MA165	DIODE
D27	RD20ES-T1B2	ZENER DIODE
OR	MTZ208T-77	ZENER DIODE
R14	QRD161J-222	RESISTOR
R15	QRD161J-362	RESISTOR
R16	QRD161J-472	RESISTOR

# REF NO. PART NO. PART NAME, DESCRIPTION

R17	QRD161J-102	RESISTOR
R18	QRD161J-622	RESISTOR
R19	QRD161J-472	RESISTOR
R20	QRD161J-102	RESISTOR
R21	QRD161J-153	RESISTOR
R22	QRD161J-472	RESISTOR
R23	QRD161J-102	RESISTOR
R24	QRD161J-102	RESISTOR
R25	QRD161J-153	RESISTOR
R26	QVZ3244-222	V RESISTOR
R27	QRD161J-223	RESISTOR
R28	QRD161J-222	RESISTOR
R29	QRD161J-103	RESISTOR
R30	QRD161J-392	RESISTOR
R31	QRD161J-102	RESISTOR
R32	QRD161J-472	RESISTOR
R33	QRD161J-331	RESISTOR
R34	QRD161J-272	RESISTOR
R35	QRZ0077-220X	FUSIBLE RESISTOR
R36	QRZ0077-220X	FUSIBLE RESISTOR
R43	QRD161J-392	RESISTOR
R44	QRD181J-1R0	RESISTOR
R45	QRD181J-1R0	RESISTOR
R46	QRD181J-1R0	RESISTOR
R47	QRD181J-1R0	RESISTOR
R48	QRD181J-1R0	RESISTOR
R49	QRD181J-1R0	RESISTOR
R50	QRD181J-1R0	RESISTOR
R51	QRD181J-1R0	RESISTOR
R52	QRD181J-562	RESISTOR
R53	QRD181J-562	RESISTOR
C43	QFN31HJ-103	M CAPACITOR
C44	QETC1CM-107	E CAPACITOR
C45	QETC1HM-106	E CAPACITOR
C46	QFN31HJ-103	M CAPACITOR
C47	QFN31HJ-103	M CAPACITOR
C48	QETC1CM-107	E CAPACITOR
C49	QFN31HJ-103	M CAPACITOR
C50	QFN31HJ-103	M CAPACITOR
C51	QETC1AM-107	E CAPACITOR
C52	QETC1HM-476	E CAPACITOR
C53	QETC1CM-107	E CAPACITOR
C54	QETC1HM-106	E CAPACITOR
C55	QFN31HJ-103	M CAPACITOR
C56	QFN31HJ-103	M CAPACITOR
C57	QETC1AM-107	E CAPACITOR
C58	QETC1HM-226	E CAPACITOR
C59	QETC1HM-226	E CAPACITOR
C60	QETC1HM-226	E CAPACITOR
C101	QETC1EM-476	E CAPACITOR
C102	QETC1HM-105	E CAPACITOR
L18	PU53618-101J	COIL
A01	PGZ00760	AC INLET
A02	PU52931	CONNECTOR COVER
BKT1	PRD20225	TRANS BRACKET
BKT2	PRD42862-01-01	EARTH BRACKET
H01	PU57505	FUSE CLIP, X2
H02	A74316	TAB, X2
HS1	PQ43701-1-1	HEAT SINK
HS2	PQ43230	HEAT SINK(2)
LF1	PU60020	LINE FILTER

# REF NO. PART NO. PART NAME, DESCRIPTION

SCW1	DPSP4008Z	SCREW
SCW2	DPSP3008Z	SCREW, X2
SCW3	DPSP3012Z	SCREW, X2
SCW4	SDST3006Z	SCREW, X3
SCW5	SBSB3008Z	SCREW, X3
SCW6	SBSB3006Z	SCREW, X2
SCW7	LPSP4008Z	SCREW
SLD2	PQ32071	SHILD CASE(2)
SPC1	PQ43773	SHEET(AC)
TP1	PU55774	TEST PIN, X4
CN5	PU58844-102R	CAP HOUSING
CN6	PU58844-107	CAP HOUSING
CN7	PU59555-105	CAP HOUSING
CN8	PU59555-108	CAP HOUSING
CN9	PU58844-103R	CAP HOUSING
CN10	PU58844-103R	CAP HOUSING
CN11	PU58844-103Y	CAP HOUSING
CN12	PU59555-108	CAP HOUSING
CP1	ICP-F25	CIRCUIT PROTECTOR
CP2	ICP-F25	CIRCUIT PROTECTOR
CP3	ICP-F20	CIRCUIT PROTECTOR
CP4	ICP-F20	CIRCUIT PROTECTOR
CP101	ICP-F25	CIRCUIT PROTECTOR
F1	QMF51E2-1R25	FUSE

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 \* 6. MECHACON BOARD ASSEMBLY <04> \*  
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PWBA	PGE10135A	MECHACON BOARD ASSY
IC1	M50938E-324SP	IC
IC2	TA8405S	IC
IC4	BA6222	IC
IC5	M50255P	IC
Q1	2SD1468S(RS)	TRANSISTOR
D1	HZS4.3EB2	ZENER DIODE
D2	MA165	DIODE
OR 1SS133		DIODE
D3	MA165	DIODE
OR 1SS133		DIODE
D4	MA165	DIODE
OR 1SS133		DIODE
D5	HZS7.5EB2	ZENER DIODE
D6	MA165	DIODE
OR 1SS133		DIODE
D7	MA165	DIODE
OR 1SS133		DIODE
D8	MA165	DIODE
OR 1SS133		DIODE
D9	MA165	DIODE
OR 1SS133		DIODE
R1	QRD161J-152	RESISTOR
R2	QRD161J-332	RESISTOR
R3	QRD161J-122	RESISTOR
R4	QRD161J-823	RESISTOR
R5	QRD161J-471	RESISTOR
R6	QRD161J-102	RESISTOR

#1 REF NO. PART NO. PART NAME, DESCRIPTION

R7	QRD161J-102	RESISTOR
R8	QRD161J-102	RESISTOR
R9	QRD161J-103	RESISTOR
R10	QRD161J-472	RESISTOR
R11	QRD161J-472	RESISTOR
R12	QRD161J-472	RESISTOR
R13	QRD161J-472	RESISTOR
R14	QRD161J-472	RESISTOR
R15	QRD161J-472	RESISTOR
R16	QRD161J-103	RESISTOR
R17	QRD161J-103	RESISTOR
R18	QRD161J-103	RESISTOR
R19	QRD161J-333	RESISTOR
R20	QRD161J-472	RESISTOR
R21	QRD161J-472	RESISTOR
R22	QRD161J-472	RESISTOR
R23	QRD161J-472	RESISTOR
R24	QRD161J-472	RESISTOR
R25	QRD161J-472	RESISTOR
R26	QRD161J-472	RESISTOR
R27	QRD161J-472	RESISTOR
R28	QRD161J-472	RESISTOR
R29	QRD161J-472	RESISTOR
R30	QRD161J-124	RESISTOR
R31	QRD161J-124	RESISTOR
R32	QRD161J-333	RESISTOR
R33	QRD161J-821	RESISTOR
R34	QRD161J-331	RESISTOR
R35	QRD161J-822	RESISTOR
R36	QRD161J-103	RESISTOR
R37	QRD161J-472	RESISTOR
R38	QRD161J-472	RESISTOR
R39	QRD161J-333	RESISTOR
R40	QRD161J-333	RESISTOR
R41	QRD161J-105	RESISTOR
R42	QRD161J-561	RESISTOR
R43	QRD161J-561	RESISTOR
RA1	QRB035J-103C	RESISTOR ARRAY
RA2	QRB045J-472C	RESISTOR ARRAY
RA3	QRB045J-103C	RESISTOR ARRAY
B1	QRD182J-0R0	RESISTOR
C1	QCFB1EZ-223	CAPACITOR
C2	QETC1EM-335	E CAPACITOR
C5	QETC1EM-106	E CAPACITOR
C6	QETC1EM-106	E CAPACITOR
C7	QCFB1EZ-223	CAPACITOR
C8	QETC1EM-475	E CAPACITOR
C9	QCFB1EZ-223	CAPACITOR
C10	QCC11CK-104	CAPACITOR
C11	QCXB1CM-222	CAPACITOR
C12	QCXB1CM-222	CAPACITOR
L1	PU53223-R22G	COIL
CF1	PU60414	CERAMIC FILTER
	OR PU60942-Z	CERAMIC FILTER
K1	PU60281-5	FERRITE BEADS
K2	PU60281-5	FERRITE BEADS
SKT1	PGZ01001	IC SOCKET
WR1	PW30112-LOAF6AH	PARALLEL WIRE
	OR PW30117-LOAG6AH	PARALLEL WIRE
CN1	PU59934-17	WIRE HOLDER

#1 REF NO. PART NO. PART NAME, DESCRIPTION

CN2	PU58844-6	CAP HOUSING
CN4	PU58930-14	CAP HOUSING
CN5	PU58930-12	CAP HOUSING
CN6	PU59555-10	CAP HOUSING
CN9	PU59555-8	CAP HOUSING
CN12	PU58844-6	CAP HOUSING
CN13	PU58844-3	CAP HOUSING
CN14	PU58928-18	CAP HOUSING
CN15	PU58928-13	CAP HOUSING
CN16	PU58928-16	CAP HOUSING
CN17	PU58928-15	CAP HOUSING
CN18	PU59555-8	CAP HOUSING

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 \* 7. VIDEO BOARD ASSEMBLY <05> \*  
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PWBA	PGE10136A	VIDEO BOARD ASSY
CL1	PU56729-2	WIRE CLAMP
CL2	PU55379	MINI CLAMP
HN1	PU58018-1-2	PWB HINGE, X2
SPC1	PU60010	SPACER, X4
CN2	PU58844-6	CAP HOUSING
CN3	PU58844-3	CAP HOUSING
CN4	PU59555-10	CAP HOUSING
CN5	PU58844-8	CAP HOUSING
CN6	PU58844-4	CAP HOUSING
CN7	PU58844-5	CAP HOUSING
CN8	PU58844-5	CAP HOUSING
CN9	PU58844-6	CAP HOUSING
CN10	PU58844-4	CAP HOUSING
CN12	PU59555-5	CAP HOUSING

## -Y SECTION-

IC1	PB20291A	Y MODULE
IC2	NJM2234D	IC
IC3	M51288SP	IC
IC4	HA118070	IC
IC5	NJM2233AD	IC
IC6	PB20290A-02	JOG MODULE(JA059)
IC7	M52055P	IC
IC8	NJM2233AD	IC
IC9	PB20285A	Y MODULE
IC10	PB20298A	Y MODULE
IC11	PB20286A-02	YNR MODULE
IC12	VC2063S	IC
IC13	TC74HC04AP	IC
	OR MC74HC04AN	IC
IC14	AN6041	IC
IC15	BA7021	IC
IC16	BU4066B	IC
Q1	2SC1740S(QRS)	TRANSISTOR
Q2	DTC124ES	TRANSISTOR
Q3	DTC124ES	TRANSISTOR
Q4	2SC1740S(QRS)	TRANSISTOR
Q5	2SC1740S(QRS)	TRANSISTOR
Q6	DTC124ES	TRANSISTOR
Q7	DTC124ES	TRANSISTOR
Q8	2SA933S	TRANSISTOR
Q9	2SA933S	TRANSISTOR
Q10	2SC1740S(QRS)	TRANSISTOR



#1 REF NO. PART NO. PART NAME, DESCRIPTION

Q11 2SA933S TRANSISTOR  
 Q12 2SC1740S(QRS) TRANSISTOR  
 Q13 2SC1740S(QRS) TRANSISTOR  
 Q14 2SA933S TRANSISTOR  
 Q15 2SA933S TRANSISTOR  
 Q16 2SA933S TRANSISTOR  
 Q17 DTC124ES TRANSISTOR  
 Q18 2SK381(C) FE TRANSISTOR  
 Q19 2SA933S TRANSISTOR  
 Q20 2SC1740S(QRS) TRANSISTOR

Q21 2SC1740S(QRS) TRANSISTOR  
 Q22 DTC144ES TRANSISTOR  
 Q23 2SA933S TRANSISTOR  
 Q24 2SA933S TRANSISTOR  
 Q25 2SA933S TRANSISTOR  
 Q26 2SC1740S(QRS) TRANSISTOR  
 Q27 DTC124ES TRANSISTOR  
 Q28 DTC124ES TRANSISTOR  
 Q29 DTA124ES TRANSISTOR  
 Q30 2SC1740S(QRS) TRANSISTOR

Q31 2SC1740S(QRS) TRANSISTOR  
 Q32 DTA124ES TRANSISTOR  
 Q33 2SA933S TRANSISTOR  
 Q34 2SC1740S(RS) TRANSISTOR  
 Q35 2SB851Q,R TRANSISTOR  
 Q36 DTA124ES TRANSISTOR  
 Q37 DTA124ES TRANSISTOR  
 Q38 DTC124ES TRANSISTOR  
 Q39 2SC3313CTA TRANSISTOR  
 Q40 2SC3313CTA TRANSISTOR

Q41 2SC1740S(QRS) TRANSISTOR  
 Q42 2SC2647C TRANSISTOR  
 Q43 2SC2647C TRANSISTOR  
 Q45 2SC1740S(QRS) TRANSISTOR  
 Q46 2SA933S TRANSISTOR  
 Q47 2SC1740S(QRS) TRANSISTOR  
 Q48 2SC1740S(QRS) TRANSISTOR  
 Q49 2SA933S TRANSISTOR  
 Q50 2SA933S TRANSISTOR

Q51 2SA933S TRANSISTOR  
 Q52 2SC1740S(QRS) TRANSISTOR  
 Q53 DTC124ES TRANSISTOR  
 Q54 DTC144ES TRANSISTOR  
 Q55 2SA933S TRANSISTOR

D1 1SS133 DIODE  
 OR MA165 DIODE  
 D2 1SS133 DIODE  
 OR MA165 DIODE  
 D3 1SS133 DIODE  
 OR MA165 DIODE  
 D4 1SS133 DIODE  
 OR MA165 DIODE  
 D5 1SS133 DIODE  
 OR MA165 DIODE  
 D6 1SS133 DIODE  
 OR MA165 DIODE  
 D7 1SS133 DIODE  
 OR MA165 DIODE  
 D8 1SS133 DIODE  
 OR MA165 DIODE  
 D10 1SS133 DIODE  
 OR MA165 DIODE  
 D11 1SS133 DIODE  
 OR MA165 DIODE  
 D12 1SS133 DIODE  
 OR MA165 DIODE  
 D13 1SS133 DIODE

#1 REF NO. PART NO. PART NAME, DESCRIPTION

OR MA165 DIODE  
 D16 1SS133 DIODE  
 OR MA165 DIODE  
 D17 1SS133 DIODE  
 OR MA165 DIODE  
 D18 1SS133 DIODE  
 OR MA165 DIODE  
 D20 0A90UF DIODE

D21 0A90UF DIODE  
 D22 1SS133 DIODE  
 OR MA165 DIODE  
 D23 1SS133 DIODE  
 OR MA165 DIODE  
 D24 1SS133 DIODE  
 OR MA165 DIODE  
 D26 1SS133 DIODE  
 OR MA165 DIODE  
 D27 1SS133 DIODE  
 OR MA165 DIODE  
 D28 1SS133 DIODE  
 OR MA165 DIODE  
 D29 1SS133 DIODE  
 OR MA165 DIODE

D31 1SS133 DIODE  
 OR MA165 DIODE  
 D32 1SS133 DIODE  
 OR MA165 DIODE  
 D34 RD9.1ES-T182 ZENER DIODE

R1 QRD161J-562 RESISTOR  
 R2 QRD161J-822 RESISTOR  
 R3 QRD161J-223 RESISTOR  
 R4 QRD161J-182 RESISTOR  
 R5 QRD161J-821 RESISTOR  
 R6 QRD161J-681 RESISTOR  
 R7 QRD161J-223 RESISTOR  
 R8 QRD161J-273 RESISTOR  
 R9 QRD161J-223 RESISTOR  
 R10 QRD161J-681 RESISTOR

R11 QRD161J-331 RESISTOR  
 R12 QRD161J-331 RESISTOR  
 R13 QRD161J-475 RESISTOR  
 R14 QRD161J-102 RESISTOR  
 R15 QRD161J-103 RESISTOR  
 R16 QRD161J-222 RESISTOR  
 R17 QRD161J-821 RESISTOR  
 R18 QRD161J-102 RESISTOR  
 R19 QRD161J-222 RESISTOR  
 R20 QRD161J-122 RESISTOR

R21 QRD161J-102 RESISTOR  
 R22 QRD161J-681 RESISTOR  
 R23 QRD161J-102 RESISTOR  
 R24 QRD161J-122 RESISTOR  
 R25 QRD161J-562 RESISTOR  
 R26 QRD121J-181 RESISTOR  
 R27 QVZ3518-102 V RESISTOR  
 R28 QRD161J-471 RESISTOR  
 R29 QRD161J-821 RESISTOR  
 R30 QRD161J-561 RESISTOR

R31 QRD161J-471 RESISTOR  
 R32 QRD161J-153 RESISTOR  
 R33 QRD161J-561 RESISTOR  
 R34 QRD161J-182 RESISTOR  
 R35 QRD161J-102 RESISTOR  
 R36 QRD161J-221 RESISTOR  
 R37 QRD161J-271 RESISTOR  
 R38 QRD161J-471 RESISTOR  
 R39 QRD161J-152 RESISTOR  
 R40 QRD161J-152 RESISTOR

# REF NO. PART NO. PART NAME, DESCRIPTION

R41	QRD161J-562	RESISTOR
R42	QVZ3518-103	V RESISTOR
R43	QRD161J-103	RESISTOR
R44	QRD161J-331	RESISTOR
R45	QRD161J-331	RESISTOR
R46	QRD161J-331	RESISTOR
R47	QRD161J-152	RESISTOR
R48	QRD161J-391	RESISTOR
R49	QRD161J-152	RESISTOR
R50	QRD161J-102	RESISTOR
R51	QRD161J-153	RESISTOR
R52	QRD161J-683	RESISTOR
R53	QRD161J-122	RESISTOR
R54	QRD161J-152	RESISTOR
R55	QRD161J-391	RESISTOR
R57	QVZ3518-151	V RESISTOR
R58	QRD161J-241	RESISTOR
R60	QRD161J-273	RESISTOR
R61	QRD161J-223	RESISTOR
R62	QRD161J-222	RESISTOR
R63	QRD161J-102	RESISTOR
R64	QRD161J-102	RESISTOR
R65	QRD161J-152	RESISTOR
R66	QRD161J-561	RESISTOR
R67	QRD161J-821	RESISTOR
R68	QRD161J-471	RESISTOR
R69	QRD161J-123	RESISTOR
R70	QRD161J-473	RESISTOR
R71	QRD161J-122	RESISTOR
R72	QRD161J-102	RESISTOR
R73	QRD161J-822	RESISTOR
R74	QRD161J-182	RESISTOR
R75	QVZ3518-102	V RESISTOR
R76	QRD161J-272	RESISTOR
R77	QRD161J-332	RESISTOR
R78	QRD161J-183	RESISTOR
R79	QRD161J-222	RESISTOR
R80	QRD161J-681	RESISTOR
R81	QRD161J-223	RESISTOR
R82	QRD161J-393	RESISTOR
R83	QRD161J-153	RESISTOR
R84	QRD161J-154	RESISTOR
R85	QRD161J-124	RESISTOR
R87	QRD161J-394	RESISTOR
R88	QRD161J-475	RESISTOR
R89	QRD161J-562	RESISTOR
R91	QVZ3518-473	V RESISTOR
R92	QVZ3518-473	V RESISTOR
R93	QRD161J-223	RESISTOR
R94	QRD161J-821	RESISTOR
R95	QVZ3518-102	V RESISTOR
R96	QRD161J-102	RESISTOR
R97	QRD161J-103	RESISTOR
R98	QRD161J-223	RESISTOR
R99	QRD161J-681	RESISTOR
R100	QRD161J-223	RESISTOR
R101	QRD161J-153	RESISTOR
R102	QRD161J-561	RESISTOR
R103	QVZ3518-102	V RESISTOR
R104	QRD161J-102	RESISTOR
R105	QRD161J-331	RESISTOR
R106	QRD161J-102	RESISTOR
R107	QVZ3518-151	V RESISTOR
R108	QVZ3518-473	V RESISTOR
R109	QRD161J-223	RESISTOR
R110	QVZ3518-473	V RESISTOR

# REF NO. PART NO. PART NAME, DESCRIPTION

R111	QRD161J-223	RESISTOR
R112	QRD161J-391	RESISTOR
R113	QRD161J-391	RESISTOR
R114	QRD161J-391	RESISTOR
R115	QRD161J-391	RESISTOR
R116	QRD161J-391	RESISTOR
R117	QRD161J-223	RESISTOR
R118	QVZ3520-223	V RESISTOR
R119	QVZ3520-472	V RESISTOR
R120	QRD161J-102	RESISTOR
R122	QRD161J-102	RESISTOR
R123	QRD161J-102	RESISTOR
R124	QRD161J-102	RESISTOR
R125	QRD161J-102	RESISTOR
R126	QRD161J-102	RESISTOR
R127	QRD161J-472	RESISTOR
R128	QRD161J-562	RESISTOR
R129	QRD161J-103	RESISTOR
R130	QRD161J-393	RESISTOR
R131	QRD161J-272	RESISTOR
R132	QRD161J-104	RESISTOR
R133	QRD161J-104	RESISTOR
R135	QRD161J-473	RESISTOR
R136	QRD161J-393	RESISTOR
R137	QRD161J-153	RESISTOR
R138	QRD161J-561	RESISTOR
R139	QRD161J-182	RESISTOR
R140	QRD161J-271	RESISTOR
R141	QRD161J-223	RESISTOR
R142	QRD161J-392	RESISTOR
R145	QRD161J-562	RESISTOR
R146	QRD161J-682	RESISTOR
R147	QRD121J-680	RESISTOR
R148	QRD161J-271	RESISTOR
R149	QRD161J-101	RESISTOR
R150	QRD161J-101	RESISTOR
R151	QRD161J-393	RESISTOR
R152	QRD161J-822	RESISTOR
R153	QRD161J-122	RESISTOR
R154	QRD161J-271	RESISTOR
R155	QRD161J-222	RESISTOR
R156	QRD161J-221	RESISTOR
R157	QRD161J-221	RESISTOR
R161	QRD161J-222	RESISTOR
R163	QVZ3518-681	V RESISTOR
R164	QRD161J-102	RESISTOR
R165	QRD161J-102	RESISTOR
R166	QRD161J-151	RESISTOR
R167	QRD161J-102	RESISTOR
R168	QRD161J-102	RESISTOR
R169	QRD161J-223	RESISTOR
R170	QRD161J-153	RESISTOR
R171	QRD161J-121	RESISTOR
R172	QRD161J-101	RESISTOR
R173	QRD161J-472	RESISTOR
R174	QRD161J-102	RESISTOR
R175	QRD161J-331	RESISTOR
R176	QRD161J-392	RESISTOR
R177	ERT-D2FHL332S	THERMISTOR
R178	QRD161J-272	RESISTOR
R179	QRD161J-223	RESISTOR
R180	QRD161J-122	RESISTOR
R181	QRD161J-562	RESISTOR
R182	QRD161J-101	RESISTOR
R183	QRD161J-101	RESISTOR
R184	QRD161J-272	RESISTOR
R185	QRD161J-471	RESISTOR

REF NO. PART NO. PART NAME, DESCRIPTION

R186 QRD161J-391 RESISTOR  
 R187 QRD161J-621 RESISTOR  
 R188 QRD161J-392 RESISTOR  
 R189 QRD161J-181 RESISTOR  
 R190 QRD161J-821 RESISTOR

R191 QRD161J-222 RESISTOR  
 R192 ERT-D2FGL102S THERMISTOR  
 R193 QRD161J-473 RESISTOR  
 R194 QRD161J-473 RESISTOR  
 R195 QRD161J-561 RESISTOR  
 R196 QRD161J-561 RESISTOR  
 R197 QVZ3520-471 V RESISTOR  
 R198 QRD161J-103 RESISTOR  
 R199 QRD161J-121 RESISTOR  
 R200 QRD161J-102 RESISTOR

R201 QRD161J-332 RESISTOR  
 R204 QRD161J-102 RESISTOR  
 R205 QRD161J-102 RESISTOR  
 R206 QRD121J-680 RESISTOR  
 R209 QRD161J-474 RESISTOR  
 R210 QRD161J-101 RESISTOR

R211 QRD161J-101 RESISTOR  
 R212 QRD161J-122 RESISTOR

B1 QRD182J-0R0 RESISTOR, X2  
 B2 QRD161J-0R0 RESISTOR

C1 QCSB1HJ-560 CAPACITOR  
 C2 QCVB1CN-103 CAPACITOR  
 C3 QCVB1CN-103 CAPACITOR  
 C4 QETC1CM-475 E CAPACITOR  
 C5 QETC1CM-224 E CAPACITOR  
 C6 QETC0JM-337 E CAPACITOR  
 C7 QCVB1CN-103 CAPACITOR  
 C8 QCSB1HJ-560 CAPACITOR  
 C9 QETC1CM-105 E CAPACITOR  
 C10 QCVB1CN-103 CAPACITOR

C11 QCSB1HJ-680 CAPACITOR  
 C13 QCVB1CN-103 CAPACITOR  
 C14 QETC1CM-225 E CAPACITOR  
 C15 QCZ0208-104 M CAPACITOR  
 C16 QCVB1CN-103 CAPACITOR  
 C17 QCVB1CN-103 CAPACITOR  
 C18 QETC1CM-225 E CAPACITOR  
 C19 QETC1CM-106 E CAPACITOR  
 C20 QETC1CM-335 E CAPACITOR

C21 QCVB1CN-103 CAPACITOR  
 C22 QCVB1CN-103 CAPACITOR  
 C23 QETC1CM-106 E CAPACITOR  
 C24 QCVB1CN-103 CAPACITOR  
 C25 QCVB1CN-103 CAPACITOR  
 C26 QCVB1CN-103 CAPACITOR  
 C27 QCVB1CN-103 CAPACITOR  
 C28 QEK61CM-475 E CAPACITOR  
 C29 QETC1CM-475 E CAPACITOR  
 C30 QCVB1CN-103 CAPACITOR

C31 QEK61CM-475 E CAPACITOR  
 C32 QEK61CM-475 E CAPACITOR  
 C33 QER61AM-226 E CAPACITOR  
 C34 QETC0JM-337 E CAPACITOR  
 C35 QCVB1CN-103 CAPACITOR  
 C36 QEP61EM-475 NP E CAPACITOR  
 C37 QER61EM-475 E CAPACITOR  
 C38 QCVB1CN-103 CAPACITOR  
 C40 QEK60JM-476 E CAPACITOR

C41 QCVB1CN-103 CAPACITOR  
 C42 QETC1CM-106 E CAPACITOR

REF NO. PART NO. PART NAME, DESCRIPTION

C43 QEK61CM-106 E CAPACITOR  
 C44 QCVB1CN-103 CAPACITOR  
 C45 QCVB1CN-103 CAPACITOR  
 C46 QCVB1CN-103 CAPACITOR  
 C47 QETC1CM-106 E CAPACITOR  
 C48 QETC1CM-106 E CAPACITOR  
 C49 QETC1CM-106 E CAPACITOR  
 C50 QCVB1CN-103 CAPACITOR

C51 QCSB1HJ-390 CAPACITOR  
 C52 QCVB1CN-103 CAPACITOR  
 C53 QETC1CM-476 E CAPACITOR  
 C54 QETC1CM-106 E CAPACITOR  
 C55 QEK61CM-106 E CAPACITOR  
 C56 QEK61CM-106 E CAPACITOR  
 C57 QEK61CM-106 E CAPACITOR  
 C58 QEK61CM-106 E CAPACITOR  
 C60 QEK61CM-476 E CAPACITOR

C61 QCVB1CN-103 CAPACITOR  
 C62 QCSB1HJ-470 CAPACITOR  
 C63 QCVB1CN-103 CAPACITOR  
 C64 QCSB1HJ-470 CAPACITOR  
 C65 QEK60JM-476 E CAPACITOR  
 C66 QEK61CM-106 E CAPACITOR  
 C67 QCVB1CN-103 CAPACITOR  
 C68 QEK61CM-106 E CAPACITOR  
 C69 QCVB1CN-103 CAPACITOR  
 C70 QEK61CM-476 E CAPACITOR

C74 QCSB1HJ-560 CAPACITOR  
 C76 QETC0JM-476 E CAPACITOR  
 C77 QETC1CM-335 E CAPACITOR  
 C78 QETC0JM-476 E CAPACITOR  
 C79 QETC1CM-106 E CAPACITOR  
 C80 QETC1CM-106 E CAPACITOR

C81 QETC0JM-476 E CAPACITOR  
 C82 QETC1CM-475 E CAPACITOR  
 C83 QETC1CM-475 E CAPACITOR  
 C84 QCVB1CN-121 CAPACITOR  
 C85 QCSB1HJ-560 CAPACITOR  
 C86 QEK61CM-106 E CAPACITOR  
 C87 QCSB1HJ-150 CAPACITOR  
 C88 QEK61CM-225 E CAPACITOR  
 C89 QEK61CM-106 E CAPACITOR  
 C90 QEK51CM-476 E CAPACITOR

C91 QCVB1CN-103 CAPACITOR  
 C92 QETC1CM-106 E CAPACITOR  
 C93 QCVB1CN-103 CAPACITOR  
 C94 QCSB1HJ-270 CAPACITOR  
 C95 QCSB1HJ-180 CAPACITOR  
 C96 QETC1CM-335 E CAPACITOR  
 C97 QCVB1CN-151 CAPACITOR  
 C98 QETC1CM-105 E CAPACITOR  
 C99 QED60JM-127 E CAPACITOR  
 C100 QCVB1CN-103 CAPACITOR

C101 QETC0JM-337 E CAPACITOR  
 C102 QCSB1HJ-120 CAPACITOR  
 C103 QCVB1CN-121 CAPACITOR  
 C104 QCVB1CN-121 CAPACITOR  
 C105 QCVB1CN-103 CAPACITOR  
 C106 QCVB1CN-103 CAPACITOR  
 C107 QCVB1CN-103 CAPACITOR  
 C108 QCVB1CN-103 CAPACITOR  
 C109 QCVB1CN-103 CAPACITOR  
 C110 QCVB1CN-103 CAPACITOR

C111 QETC0JM-476 E CAPACITOR  
 C112 QCVB1CN-103 CAPACITOR  
 C113 QCVB1CN-103 CAPACITOR  
 C114 QCVB1CN-103 CAPACITOR



REF NO. PART NO. PART NAME, DESCRIPTION

C115	QCVB1CN-103	CAPACITOR
C116	QCSB1HJ-101	CAPACITOR
C117	QCVB1CN-103	CAPACITOR
C118	QCVB1CN-103	CAPACITOR
C119	QCVB1CN-103	CAPACITOR
C120	QCVB1CN-103	CAPACITOR
C121	QEK61CM-106	E CAPACITOR
C122	QCVB1CN-103	CAPACITOR
C123	QETC1HM-105	E CAPACITOR
C124	QCVB1CN-103	CAPACITOR
C125	QETC1CM-476	E CAPACITOR
C126	QEK61AM-476	E CAPACITOR
C127	QCVB1CN-103	CAPACITOR
C130	QETC0JM-476	E CAPACITOR
C131	QCVB1CN-103	CAPACITOR
C132	QETC1AM-476	E CAPACITOR
C133	QCVB1CN-103	CAPACITOR
C134	QCVB1CN-103	CAPACITOR
C135	QETC1CM-476	E CAPACITOR
C136	QCVB1CN-103	CAPACITOR
C137	QETC1CM-476	E CAPACITOR
C138	QCVB1CN-103	CAPACITOR
C139	QCVB1CN-103	CAPACITOR
C140	QETC0JM-476	E CAPACITOR
C141	QCVB1CN-103	CAPACITOR
C142	QEN61HM-105	NP E CAPACITOR
C143	QETC1HM-104	E CAPACITOR
C144	QCVB1CN-103	CAPACITOR
C146	QCSB1HJ-220	CAPACITOR
C147	QCSB1HJ-101	CAPACITOR
C148	QCVB1CN-103	CAPACITOR
C149	QCSB1HJ-560	CAPACITOR
C150	QCSB1HJ-390	CAPACITOR
C151	QCVB1CN-103	CAPACITOR
C152	QEK61CM-336	E CAPACITOR
C153	QCSB1HK-5R6	CAPACITOR
C154	QCSB1HJ-390	CAPACITOR
C155	QCSB1HJ-120	CAPACITOR
C156	QCSB1HJ-220	CAPACITOR
C157	QCSB1HJ-181	CAPACITOR
C159	QCVB1CN-103	CAPACITOR
C160	QCSB1HJ-151	CAPACITOR
C162	QEK61CM-106	E CAPACITOR
C163	QEK61CM-106	E CAPACITOR
C165	QEK61CM-476	E CAPACITOR
C166	QCVB1CN-103	CAPACITOR
C167	QETC1CM-107	E CAPACITOR
C168	QCVB1CN-103	CAPACITOR
C169	QETC1CM-106	E CAPACITOR
C171	QCVB1CN-103	CAPACITOR
C172	QCVB1CN-103	CAPACITOR
C173	QCT25CH-470	CAPACITOR
C174	QCSB1HJ-471	CAPACITOR
C175	QCC31CJ-563	CAPACITOR
C178	QCVB1CN-103	CAPACITOR
C179	QCSB1HJ-470	CAPACITOR
C180	QCSB1HJ-220	CAPACITOR
C183	QCSB1HJ-390	CAPACITOR
C184	QCVB1CN-103	CAPACITOR
C185	QCSB1HK-3R9	CAPACITOR
L1	PU59152-220J	COIL
L2	PU48530-101K	COIL
L3	PU48530-101K	COIL
L4	PU48530-101K	COIL
L5	PU48530-101K	COIL
L6	PU48530-101K	COIL

REF NO. PART NO. PART NAME, DESCRIPTION

L7	PU48530-101K	COIL
L8	PU48530-101K	COIL
L9	PU48530-101K	COIL
L10	PU48530-101K	COIL
L11	PU48530-101K	COIL
L12	PU48530-101K	COIL
L13	PU59152-220J	COIL
L14	PU48530-101K	COIL
L15	PU48530-101K	COIL
L16	PU59152-820J	COIL
L17	PU48530-101K	COIL
L18	PU59152-560J	COIL
L19	PU48530-101K	COIL
L20	PU48530-471K	COIL
L21	PU59152-150J	COIL
L22	PU48530-101K	COIL
L23	PU48530-471K	COIL
L24	PU48530-560J	COIL
L25	PU59152-221J	COIL
L26	PU59152-560J	COIL
L27	PU48530-101K	COIL
L28	PU48530-101K	COIL
L29	PU48530-101K	COIL
L30	PU60165-8R2G	COIL
L31	PU60165-8R2G	COIL
L32	PU48530-101K	COIL
L33	PU59152-180J	COIL
L35	PU59152-1R0K	COIL
L36	PU59152-1R0K	COIL
L38	PU59152-5R6J	COIL
L39	PU48530-101K	COIL
L40	PU59152-820J	COIL
L41	PU59152-470J	COIL
L42	PU59152-221J	COIL
L43	PU48530-101K	COIL
L44	PU59152-151J	COIL
EQ1	PU60099	EQUALIZER
EQ2	PU60809	EQUALIZER
EQ3	PU60810	EQUALIZER
LPF1	PU60813	LOW & BAND PASS FILTER
LPF2	PU60737	LOW PASS FILTER
LPF3	PU60806-2	LOW PASS FILTER
BPF2	PU60921	BAND PASS FILTER
BPF3	PU60808-2	BAND PASS FILTER
DL1	PU60815	DELAY LINE
DL3	PU61081	DELAY LINE
Δ X101	PU60438	CRYSTAL RESONATOR
T1	PU60814	COIL
T2	PU60814	COIL
TP6	PU56008	TEST-PIN
TP10	PU57545	TEST-PIN, X38
-COLOR SECTION-		
IC301	PB20287A-03	CHROMA MODULE (JA056-01)
IC302	PB20289A-02	JOG MODULE (JA058)
IC303	NJM2233AD	IC
IC401	BA7106LS	IC
	OR XRA7106LS	IC
Q301	2SA933S	TRANSISTOR
Q302	DTC144WS	TRANSISTOR

#1 REF NO. PART NO. PART NAME, DESCRIPTION

Q303 DTA124ES TRANSISTOR  
 Q304 2SC1740S(QRS) TRANSISTOR  
 Q305 2SC1740S(QRS) TRANSISTOR  
 Q307 2SC2021Q,R,S TRANSISTOR  
 Q308 2SA937 TRANSISTOR  
 Q309 2SC1740S(QRS) TRANSISTOR  
 Q310 DTC124ES TRANSISTOR

Q311 2SC1740S(QRS) TRANSISTOR  
 Q312 DTC114ES TRANSISTOR  
 Q313 DTC114ES TRANSISTOR  
 Q314 DTC144WS TRANSISTOR  
 Q315 2SC1740S(QRS) TRANSISTOR  
 Q316 2SA933S TRANSISTOR  
 Q317 2SC1740S(QRS) TRANSISTOR  
 Q318 2SC1740S(QRS) TRANSISTOR  
 Q319 2SC1740S(QRS) TRANSISTOR  
 Q320 DTC124ES TRANSISTOR

Q323 DTC124ES TRANSISTOR  
 Q324 DTC124ES TRANSISTOR  
 Q326 2SA933S TRANSISTOR  
 Q327 2SA933S(QRS) TRANSISTOR

Q331 DTC124ES TRANSISTOR

Q401 DTA124ES TRANSISTOR  
 Q402 DTA124ES TRANSISTOR  
 Q403 DTC124ES TRANSISTOR

D301 1SS133 DIODE  
 OR MA165 DIODE  
 D302 1SS133 DIODE  
 OR MA165 DIODE

D311 1SS133 DIODE  
 OR MA165 DIODE  
 D312 1SS133 DIODE  
 OR MA165 DIODE  
 D313 1SS133 DIODE  
 OR MA165 DIODE  
 D314 1SS133 DIODE  
 OR MA165 DIODE  
 D315 1SS133 DIODE  
 OR MA165 DIODE

D401 1SS133 DIODE  
 OR MA165 DIODE  
 D402 1SS133 DIODE  
 OR MA165 DIODE  
 D403 1SS133 DIODE  
 OR MA165 DIODE

R302 QRD161J-102 RESISTOR  
 R303 QRD161J-102 RESISTOR  
 R304 QRD161J-102 RESISTOR  
 R305 QRD161J-102 RESISTOR  
 R307 QRD161J-225 RESISTOR  
 R308 QRD161J-103 RESISTOR  
 R309 QRD161J-102 RESISTOR  
 R310 QRD161J-222 RESISTOR

R311 QRD161J-222 RESISTOR  
 R312 QRD161J-561 RESISTOR  
 R313 QRD161J-561 RESISTOR  
 R314 QRD161J-103 RESISTOR  
 R315 QRD161J-471 RESISTOR  
 R316 QRD161J-223 RESISTOR  
 R319 QRD161J-102 RESISTOR  
 R320 QRD161J-102 RESISTOR

R321 QRD161J-561 RESISTOR  
 R322 QRD161J-471 RESISTOR  
 R323 QRD161J-272 RESISTOR

#1 REF NO. PART NO. PART NAME, DESCRIPTION

R324 QRD161J-391 RESISTOR  
 R325 QRD161J-223 RESISTOR  
 R326 QRD161J-561 RESISTOR  
 R327 QRD161J-333 RESISTOR  
 R328 QRD161J-102 RESISTOR  
 R329 QRD161J-222 RESISTOR  
 R330 QRD161J-561 RESISTOR

R331 QRD161J-561 RESISTOR  
 R332 QRD161J-393 RESISTOR  
 R333 QRD161J-223 RESISTOR  
 R334 QRD161J-221 RESISTOR  
 R335 QRD161J-391 RESISTOR  
 R336 QRD161J-152 RESISTOR  
 R337 QRD161J-333 RESISTOR  
 R338 QRD161J-333 RESISTOR  
 R339 QRD161J-151 RESISTOR  
 R340 QRD161J-222 RESISTOR

R341 QRD161J-331 RESISTOR  
 R342 QRD161J-561 RESISTOR  
 R343 QRD161J-393 RESISTOR  
 R344 QRD161J-332 RESISTOR  
 R345 QRD161J-472 RESISTOR  
 R346 QRD161J-103 RESISTOR  
 R347 QRD161J-473 RESISTOR  
 R348 QRD161J-391 RESISTOR  
 R349 QRD161J-821 RESISTOR  
 R350 QRD161J-471 RESISTOR

R351 QRD161J-102 RESISTOR  
 R352 QRD161J-102 RESISTOR  
 R353 QVZ3518-222 V RESISTOR  
 R354 QRD161J-222 RESISTOR  
 R355 QVZ3518-222 V RESISTOR  
 R357 QRD161J-333 RESISTOR  
 R358 QRD161J-223 RESISTOR  
 R359 QRD161J-223 RESISTOR  
 R360 QRD161J-102 RESISTOR

R361 QRD161J-821 RESISTOR  
 R362 QRD161J-103 RESISTOR  
 R363 QRD161J-103 RESISTOR  
 R364 QRD161J-223 RESISTOR  
 R366 QRD161J-103 RESISTOR  
 R367 QRD161J-473 RESISTOR  
 R368 QRD161J-332 RESISTOR

R371 QRD161J-272 RESISTOR  
 R380 QRD161J-682 RESISTOR

R401 QRD161J-103 RESISTOR  
 R402 QRD161J-914 RESISTOR  
 R403 QRD161J-104 RESISTOR  
 R404 QRD161J-333 RESISTOR  
 R405 QRD161J-273 RESISTOR

C301 QETC1HM-105 E CAPACITOR  
 C302 QETC1HM-105 E CAPACITOR  
 C303 QCC31CJ-223 CAPACITOR  
 C304 QETC0JM-107 E CAPACITOR  
 C305 QETC1HM-105 E CAPACITOR  
 C307 QCSB1HJ-330 CAPACITOR  
 C308 QCSB1HJ-390 CAPACITOR  
 C309 QFN41HJ-473 M CAPACITOR  
 C310 QCSB1HJ-560 CAPACITOR

C311 QEK60JM-476 E CAPACITOR  
 C312 QCVB1CN-103 CAPACITOR  
 C314 QCB81HJ-820 CAPACITOR  
 C315 QCC31CK-682 CAPACITOR  
 C316 QCVB1CN-103 CAPACITOR  
 C317 QCXB1CN-222 CAPACITOR  
 C318 QCB81HJ-820 CAPACITOR

#1 REF NO. PART NO. PART NAME, DESCRIPTION

C320	QCVB1CN-103	CAPACITOR
C321	QETC1HM-105	E CAPACITOR
C322	QETC1HM-104	E CAPACITOR
C323	QEK61EM-475	E CAPACITOR
C324	QCC31CK-104	CAPACITOR
C325	QETC0JM-337	E CAPACITOR
C326	QCC31CK-563	CAPACITOR
C327	QETC0JM-107	E CAPACITOR
C328	QETC1EM-335	E CAPACITOR
C329	QETC0JM-337	E CAPACITOR
C330	QETB1HM-474	E CAPACITOR
C331	QETC1HM-474	E CAPACITOR
C332	QETC1HM-474	E CAPACITOR
C333	QEK61HM-474	E CAPACITOR
C334	QETC1HM-474	E CAPACITOR
C335	QETC1CM-106	E CAPACITOR
C336	QCVB1CN-103	CAPACITOR
C337	QCBBIHJ-121	CAPACITOR
C338	QCVB1CN-103	CAPACITOR
C339	QCVB1CN-103	CAPACITOR
C341	QCVB1CN-103	CAPACITOR
C342	QCSB1HJ-100	CAPACITOR
C343	QCVB1CN-103	CAPACITOR
C345	QCVB1CN-103	CAPACITOR
C346	QCVB1CN-103	CAPACITOR
C347	QCSB1HJ-390	CAPACITOR
C348	QCVB1CN-103	CAPACITOR
C349	QCVB1CN-103	CAPACITOR
C350	QCVB1CN-103	CAPACITOR
C351	QCVB1CN-103	CAPACITOR
C352	QEK60JM-476	E CAPACITOR
C353	QCVB1CN-103	CAPACITOR
C355	QCVB1CN-103	CAPACITOR
C401	QEK61CM-106	E CAPACITOR
C402	QEK61EM-335	E CAPACITOR
C403	QCBBIHJ-471	CAPACITOR
C404	QCVB1CN-103	CAPACITOR
C405	QCVB1CN-103	CAPACITOR
C406	QCVB1CN-103	CAPACITOR
C407	QFN31HJ-471	M CAPACITOR
C408	QCSB1HJ-470	CAPACITOR
C409	QCSB1HJ-470	CAPACITOR
C410	QCSB1HK-477	CAPACITOR
C411	QCSB1HJ-200	CAPACITOR
C412	QEK60JM-107	E CAPACITOR
C413	QCVB1CN-103	CAPACITOR
L301	PU48530-101K	COIL
L303	PU48530-101K	COIL
L304	PU59152-390J	COIL
L305	PU48530-222J	COIL
L306	PU59152-221J	COIL
L307	PU48530-821J	COIL
L308	PU48530-101K	COIL
L309	PU59152-100J	COIL
L310	PU59152-100J	COIL
L311	PU59153-822J	COIL
L312	PU59153-101K	COIL
L313	PU59153-101K	COIL
L314	PU48530-101K	COIL
L316	PU59152-150J	COIL
L317	PU48530-101K	COIL
L401	PU59152-330J	COIL
L402	PU48530-101K	COIL
EQ301	PU60811-2	EQUALIZER

#1 REF NO. PART NO. PART NAME, DESCRIPTION

LPF301	PU58022	LOW PASS FILTER
BPF301	PU57072	BAND PASS FILTER
	OR PU57072-2	BAND PASS FILTER
BPF302	PU60654	BAND PASS FILTER
	OR PU60654-2	BAND PASS FILTER
△ CF301	PU57073	CERAMIC FILTER
DL301	PU58971-3	COMB FILTER
X301	PU60653	CRYSTAL UNITS
T301	PU49057	LC BLOCK
T401	PU60655	COIL

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 \* 8. TERMINAL BOARD ASSEMBLY <06> \*  
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PWBA PGE30200A-03 TERMINAL BOARD ASSY

D1	RD10ESB1	ZENER DIODE
D2	RD10ESB1	ZENER DIODE
D7	1SS133	DIODE
D8	1SS133	DIODE
R1	QRD167J-102	RESISTOR
R2	QRD167J-102	RESISTOR
R3	QVZ3518-105	V RESISTOR
R7	QRD167J-750	RESISTOR
R8	QRD167J-750	RESISTOR
R9	QRD167J-750	RESISTOR

C1	QCBBIHK-102	CAPACITOR
C2	QCBBIHK-102	CAPACITOR

△ LC1	PU59885-102	N FILTER
△ LC2	PU59885-102	N FILTER

K1	PU58903	FERRITE CORE
J1	PGZ00592	7P CONNECTOR
J2	PGZ00593	7P CONNECTOR
TB1	PGZ01267	TERMINAL BOARD
CN1	PU58929-18	CONNECTOR
CN2	PU58929-13	CONNECTOR

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 \* 9. AUDIO BOARD ASSEMBLY <09> \*  
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PWBA PGE20307A AUDIO BOARD ASSY

IC1	AN3380NK	IC
IC2	TA7361AP	IC
IC3	PB20167A-01	FMA MODULE
IC101	UPC78N05	IC



#1 REF NO. PART NO. PART NAME, DESCRIPTION

Q1	2SC1740S(RS)	TRANSISTOR
Q2	2SC3311(RS)	TRANSISTOR
Q3	DTC114ES	TRANSISTOR
Q4	2SC1740S(RS)	TRANSISTOR
Q5	DTC114ES	TRANSISTOR
Q6	DTC114ES	TRANSISTOR
Q7	DTC114ES	TRANSISTOR
Q8	DTA114ES	TRANSISTOR
Q9	DTA114ES	TRANSISTOR
Q10	2SC1740S(RS)	TRANSISTOR
Q11	2SC1740S(RS)	TRANSISTOR
Q12	DTC143TS	TRANSISTOR
Q13	DTC143TS	TRANSISTOR
Q16	2SC3311(RS)	TRANSISTOR
Q17	DTA114ES	TRANSISTOR
Q18	DTC114ES	TRANSISTOR
Q20	DTA114ES	TRANSISTOR
Q23	DTA143TS	TRANSISTOR
Q101	2SD1764	TRANSISTOR
Q102	2SA854S(QR)	TRANSISTOR
Q103	2SA854S(QR)	TRANSISTOR
D1	1SS133	DIODE
OR MA165		DIODE
D3	1SS133	DIODE
OR MA165		DIODE
D5	1SS133	DIODE
OR MA165		DIODE
D6	1SS133	DIODE
OR MA165		DIODE
D7	1SS133	DIODE
OR MA165		DIODE
D8	1SS133	DIODE
OR MA165		DIODE
D9	HZ2BLL	DIODE
D12	1SS133	DIODE
OR MA165		DIODE
D16	1SS133	DIODE
OR MA165		DIODE
D17	1SS133	DIODE
OR MA165		DIODE
D101	HZ12A2	ZENER DIODE
D102	1SS133	DIODE
OR MA165		DIODE
R3	QRD161J-102	RESISTOR
R4	QRD161J-682	RESISTOR
R5	QRD161J-151	RESISTOR
R6	QRD161J-152	RESISTOR
R7	QRD161J-222	RESISTOR
R8	QRD161J-100	RESISTOR
R9	QVZ3518-473	V RESISTOR
R10	QRD161J-333	RESISTOR
R11	QRD161J-473	RESISTOR
R12	QRD161J-101	RESISTOR
R13	QRD161J-273	RESISTOR
R14	QRD161J-3R9	RESISTOR
R15	QRD161J-103	RESISTOR
R18	QRD161J-0R0	RESISTOR
R20	QRD161J-183	RESISTOR
R21	QRD161J-270	RESISTOR
R22	QRD161J-470	RESISTOR
R23	QRD161J-303	RESISTOR
R25	QRD161J-103	RESISTOR
R26	QRD161J-274	RESISTOR
R27	QRD161J-471	RESISTOR

#1 REF NO. PART NO. PART NAME, DESCRIPTION

R28	QVZ3518-102	V RESISTOR
R29	QRD161J-102	RESISTOR
R31	QRD161J-151	RESISTOR
R32	QRD161J-102	RESISTOR
R33	QRD161J-102	RESISTOR
R34	QRD161J-151	RESISTOR
R40	QRD161J-222	RESISTOR
R41	QRD161J-222	RESISTOR
R43	QRD161J-101	RESISTOR
R44	QRD161J-101	RESISTOR
R45	QRD161J-392	RESISTOR
R46	QRD161J-332	RESISTOR
R47	QRD161J-123	RESISTOR
R48	QRD161J-223	RESISTOR
R49	QRD161J-274	RESISTOR
R50	QRD161J-222	RESISTOR
R51	QRD161J-222	RESISTOR
R52	QRD161J-103	RESISTOR
R53	QRD161J-333	RESISTOR
R54	QRD161J-183	RESISTOR
R55	QRD161J-392	RESISTOR
R56	QRD161J-272	RESISTOR
R57	QRD161J-181	RESISTOR
R58	QRD161J-333	RESISTOR
R59	QRD161J-333	RESISTOR
R60	QRD161J-333	RESISTOR
R62	QRD161J-333	RESISTOR
R63	QRD161J-102	RESISTOR
R64	QRD161J-331	RESISTOR
R65	QRD161J-223	RESISTOR
R66	QRD161J-6R8	RESISTOR
R67	QRD161J-333	RESISTOR
R68	QRD161J-333	RESISTOR
R70	QRD161J-273	RESISTOR
R72	QRD161J-392	RESISTOR
R73	QVZ3518-332	V RESISTOR
R74	QVZ3518-332	V RESISTOR
R76	QRD161J-151	RESISTOR
R80	QVZ3518-331	V RESISTOR
R81	QRD161J-103	RESISTOR
R82	QRD161J-153	RESISTOR
R83	QRD162J-222	RESISTOR
R84	QRD162J-222	RESISTOR
R85	QRD161J-222	RESISTOR
R86	QRD161J-103	RESISTOR
R87	QRD161J-102	RESISTOR
R88	QRD161J-102	RESISTOR
R89	QRD161J-820	RESISTOR
R91	QRD161J-103	RESISTOR
R101	QRD161J-182	RESISTOR
R103	QRD161J-103	RESISTOR
R104	QRD161J-222	RESISTOR
R105	QRD161J-103	RESISTOR
R106	QRD161J-681	RESISTOR
R107	QRD161J-152	RESISTOR
R108	QRD161J-391	RESISTOR
R109	QRD161J-332	RESISTOR
R110	QRD161J-153	RESISTOR
C1	QETC1CM-106	E CAPACITOR
C2	QETC1AM-476	E CAPACITOR
C3	QEP61CM-106	NP E CAPACITOR
C4	QETC1CM-106	E CAPACITOR
C5	QETC1CM-226	E CAPACITOR
C6	QETC1AM-336	E CAPACITOR
C7	QETC1AM-476	E CAPACITOR

#1 REF NO. PART NO. PART NAME, DESCRIPTION

C8	QCBBIHK-102	CAPACITOR
C9	QCBBIHK-101	CAPACITOR
C10	QETCIAM-336	E CAPACITOR
C11	QETCIAM-107	E CAPACITOR
C12	QETCIAM-226	E CAPACITOR
C13	QETB1CM-106	E CAPACITOR
C14	QEP61CM-106	NP E CAPACITOR
C15	QETB1AM-476	E CAPACITOR
C16	QETCIAM-106	E CAPACITOR
C17	QCBBIHJ-331	CAPACITOR
C18	QFV71HJ-223	M CAPACITOR
OR	QFN31HJ-223	M CAPACITOR
C19	QCC11EJ-222	CAPACITOR
C20	QCC11EJ-102	CAPACITOR
C21	QEK61EM-475	E CAPACITOR
C22	QETB1EM-475	E CAPACITOR
C24	QCBBIHJ-561	CAPACITOR
C25	QETCIHM-225	E CAPACITOR
C26	QETCIAM-336	E CAPACITOR
C27	QETCOJM-476	E CAPACITOR
C28	QFN31HJ-104	M CAPACITOR
OR	QFV71HJ-104	M CAPACITOR
C29	QFV71HJ-473	M CAPACITOR
C30	QETCIHM-105	E CAPACITOR
C32	QFN31HJ-123	M CAPACITOR
C33	QFV71HJ-274	M CAPACITOR
C34	QEB51CM-226	E CAPACITOR
C35	QEB51HM-105	E CAPACITOR
C36	QETB1CM-106	E CAPACITOR
C37	QETCIAM-336	E CAPACITOR
C38	QETCIAM-476	E CAPACITOR
C39	QETCIAM-336	E CAPACITOR
C40	QETCIAM-106	E CAPACITOR
C41	QETCIAM-476	E CAPACITOR
C42	QETCIHM-225	E CAPACITOR
C43	QETCIAM-106	E CAPACITOR
C44	QETCIHM-225	E CAPACITOR
C45	QEN61HM-225	NP E CAPACITOR
C46	QEN61HM-225	NP E CAPACITOR
C47	QETCIHM-225	E CAPACITOR
C49	QCF31HP-223	CAPACITOR
C50	QFV71HJ-104	M CAPACITOR
OR	QFN31HJ-104	M CAPACITOR
C51	QFV71HJ-104	M CAPACITOR
OR	QFN31HJ-104	M CAPACITOR
C52	QFV71HJ-104	M CAPACITOR
OR	QFN31HJ-104	M CAPACITOR
C53	QCF31HP-223	CAPACITOR
C54	QEK60JM-107	E CAPACITOR
C55	QCVB1CN-103	CAPACITOR
C56	QCBBIHJ-102	CAPACITOR
C57	QCSB1HJ-330	CAPACITOR
C58	QCBBIHJ-331	CAPACITOR
C59	QCBBIHJ-102	CAPACITOR
C60	QCVB1CN-103	CAPACITOR
C61	QCVB1CN-103	CAPACITOR
C62	QCVB1CN-103	CAPACITOR
C63	QCC11EJ-272	CAPACITOR
C66	QETCIAM-106	E CAPACITOR
C67	QETCIAM-106	E CAPACITOR
C68	QETCIHM-225	E CAPACITOR
C69	QETCIHM-225	E CAPACITOR
C70	QCBBIHJ-391	CAPACITOR
C71	QCBBIHJ-391	CAPACITOR
C72	QCBBIHK-561	CAPACITOR
C73	QCBBIHK-561	CAPACITOR
C74	QCC11EJ-332	CAPACITOR

#1 REF NO. PART NO. PART NAME, DESCRIPTION

C75	QCC11EJ-102	CAPACITOR
C76	QFV71HJ-333	M CAPACITOR
OR	QFN31HJ-333	M CAPACITOR
C77	QETCIAM-106	E CAPACITOR
C78	QFV71HJ-104	M CAPACITOR
OR	QFN31HJ-104	M CAPACITOR
C79	QCC11EJ-273	CAPACITOR
C101	QEK61EM-336	E CAPACITOR
C102	QCBBIHK-102	CAPACITOR
C103	QEK61HM-105	E CAPACITOR
C104	QETCIAM-106	E CAPACITOR
C105	QFV81HJ-153	TF CAPACITOR
C106	QCBBIHJ-681	CAPACITOR
C107	QCBBIHJ-391	CAPACITOR
L1	PU54223-101J	COIL
L3	PU58308-392J	COIL
L4	PU54223-221J	COIL
L5	PU54223-101J	COIL
BPF1	PU60610	BAND PASS FILTER
BPF2	PU60611	BAND PASS FILTER
△ T1	PU60320	OSC TRANSFORMER
△ T2	PU60321	OSC TRANSFORMER
HN1	PU58018-1-2	PWB HINGE, X2
△ HS1	PU60185	HEAT SINK
HS2	PU60261	HEAT SINK
SCW1	DPSP3008Z	SCREW
SLD1	PU59960	PRE AMP SHIELD1
SLD2	PU59961	PRE AMP SHIELD2
SLD3	PQ43345-1-1	SHIELD PLATE
TP1	PU55774	TEST PIN, X7
CN1	PU58844-3Y	CAP HOUSING
CN2	PU59555-8	CAP HOUSING
CN4	PU59555-5	CAP HOUSING
CN5	PU58844-4	CAP HOUSING
CN6	PU58844-2	CAP HOUSING
CN7	PU58844-4	CAP HOUSING
CN9	PU58844-8	CAP HOUSING
CN10	PU58844-5	CAP HOUSING
CN11	PU58844-3	CAP HOUSING
CN12	PU58844-6	CAP HOUSING
CN14	PU58844-2Y	CAP HOUSING
CP1	ICP-F20	CIRCUIT PROTECTOR

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 \* 10. AV IN/OUT BOARD ASSEMBLY <10> \*  
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PWBA	PGE20309A-01	AV IN/OUT BOARD ASSY
CN2	PU58844-3	CAP HOUSING
CN3	PU59555-5	CAP HOUSING
CN16	PU58929-16	CAP HOUSING
CN17	PU58929-15	CAP HOUSING
CN301	PU58844-5	CAP HOUSING

# REF NO. PART NO. PART NAME, DESCRIPTION

CN304 PU58844-3 CAP HOUSING  
CN307 PU58844-4 CAP HOUSING

-AUDIO SECTION-

IC1 TC4052BP IC  
OR MC14052BCP IC  
IC2 M5218P IC  
IC3 M5218P IC

Q1 2SD1450S,T TRANSISTOR  
Q2 2SC1740S(QRS) TRANSISTOR  
Q3 2SC1740S(QRS) TRANSISTOR

R1 QRD161J-102 RESISTOR  
R2 QRD161J-102 RESISTOR  
R3 QRD161J-102 RESISTOR  
R4 QRD161J-102 RESISTOR  
R5 QRD161J-102 RESISTOR  
R6 QRD161J-102 RESISTOR  
R7 QRD161J-103 RESISTOR  
R8 QRD161J-103 RESISTOR  
R9 QRD161J-473 RESISTOR  
R10 QRD161J-104 RESISTOR

R11 QRD161J-103 RESISTOR  
R12 QRD161J-0R0 RESISTOR  
R13 QRD161J-823 RESISTOR  
R14 QRD161J-221 RESISTOR  
R15 QRD161J-103 RESISTOR  
R16 QRD161J-332 RESISTOR  
R17 QRD161J-332 RESISTOR  
R18 QRD161J-224 RESISTOR  
R19 QRD161J-224 RESISTOR  
R20 QRD161J-0R0 RESISTOR

R21 QRD161J-0R0 RESISTOR  
R22 QRD161J-682 RESISTOR  
R23 QRD161J-682 RESISTOR  
R24 QRD161J-302 RESISTOR  
R25 QRD161J-302 RESISTOR  
R26 QRD161J-101 RESISTOR  
R27 QRD161J-122 RESISTOR  
R28 QRD161J-561 RESISTOR  
R29 QRD161J-222 RESISTOR  
R30 QRD161J-473 RESISTOR

R31 QRD161J-103 RESISTOR  
R32 QRD161J-222 RESISTOR

RA1 QRB045J-104XC RESISTOR ARRAY  
OR QRB045J-104C RESISTOR ARRAY  
RA2 QRB055J-104XC RESISTOR ARRAY  
OR QRB055J-104C RESISTOR ARRAY  
RA3 QRB065J-104XC RESISTOR ARRAY  
OR QRB065J-104C RESISTOR ARRAY

C1 QEK61CM-106 E CAPACITOR  
C2 QEP61CM-106 NP E CAPACITOR  
C3 QEK61CM-106 E CAPACITOR  
C4 QEK61CM-106 E CAPACITOR  
C5 QEK61CM-106 E CAPACITOR  
C6 QEK61CM-106 E CAPACITOR  
C7 QEP61CM-106 NP E CAPACITOR  
C8 QEK61CM-106 E CAPACITOR  
C9 QEK60JM-107 E CAPACITOR  
C10 QEP61HM-335 E CAPACITOR

C11 QEP61HM-335 E CAPACITOR  
C12 QEK61HM-105 E CAPACITOR  
C13 QEK61HM-105 E CAPACITOR  
C14 QEK61HM-105 E CAPACITOR  
C16 QEK61CM-476 E CAPACITOR  
C20 QEK61CM-476 E CAPACITOR

# REF NO. PART NO. PART NAME, DESCRIPTION

C21 QEK61CM-106 E CAPACITOR

SLD2 PQ42994 SHIELD PLATE  
SLD3 PQ42995 SHIELD CASE

-VIDEO SECTION-

IC301 NJM2234S IC  
IC302 NJM2234S IC  
IC303 NJM2243S IC  
IC304 NJM2234S IC  
IC305 TC74HC4066AP IC

Q301 2SA933S(RS) TRANSISTOR  
OR 2SA1309RTA TRANSISTOR  
Q302 2SA933S(RS) TRANSISTOR  
OR 2SA1309RTA TRANSISTOR  
Q303 2SA933S(RS) TRANSISTOR  
OR 2SA1309RTA TRANSISTOR  
Q304 2SB810H,J TRANSISTOR  
Q305 DTA124ES TRANSISTOR  
Q306 2SA933S(RS) TRANSISTOR  
OR 2SA1309RTA TRANSISTOR  
Q307 2SC1740S(QRS) TRANSISTOR  
Q308 2SC1740S(QRS) TRANSISTOR  
Q309 2SC1740S(QRS) TRANSISTOR

Q311 2SC1740S(QRS) TRANSISTOR  
Q312 2SC1740S(QRS) TRANSISTOR  
Q313 2SC1740S(QRS) TRANSISTOR  
Q314 2SC1740S(QRS) TRANSISTOR  
Q315 2SC1740S(QRS) TRANSISTOR  
Q316 2SA933S(RS) TRANSISTOR  
OR 2SA1309RTA TRANSISTOR  
Q317 DTC144WS TRANSISTOR  
Q318 2SA933S(RS) TRANSISTOR  
OR 2SA1309RTA TRANSISTOR  
Q319 2SC1740S(QRS) TRANSISTOR

D301 1SS133 DIODE  
OR MA165 DIODE  
D302 1SS133 DIODE  
OR MA165 DIODE  
D303 1SS133 DIODE  
OR MA165 DIODE  
D304 1SS133 DIODE  
OR MA165 DIODE  
D305 1SS133 DIODE  
OR MA165 DIODE  
D306 1SS133 DIODE  
OR MA165 DIODE  
D307 1SS133 DIODE  
OR MA165 DIODE  
D308 1SS133 DIODE  
OR MA165 DIODE  
D309 1SS133 DIODE  
OR MA165 DIODE  
D310 1SS133 DIODE  
OR MA165 DIODE

D311 1SS133 DIODE  
OR MA165 DIODE  
D312 1SS133 DIODE  
OR MA165 DIODE  
D313 1SS133 DIODE  
OR MA165 DIODE  
D314 1SS133 DIODE  
OR MA165 DIODE  
D315 1SS133 DIODE  
OR MA165 DIODE  
D316 1SS133 DIODE



#1	REF NO.	PART NO.	PART NAME, DESCRIPTION	#1	REF NO.	PART NO.	PART NAME, DESCRIPTION
		OR MA165	DIODE				
D317		1SS133	DIODE	R343		QRD161J-562	RESISTOR
		OR MA165	DIODE	R344		QRD161J-103	RESISTOR
D318		1SS133	DIODE	R345		QRD161J-393	RESISTOR
		OR MA165	DIODE	R346		QRD161J-472	RESISTOR
D319		1SS133	DIODE	R347		QRD161J-101	RESISTOR
D320		1SS133	DIODE	R348		QRD161J-560	RESISTOR
		OR MA165	DIODE	R349		QRD161J-560	RESISTOR
D321		1SS133	DIODE	R351		QRD161J-103	RESISTOR
		OR MA165	DIODE	R352		QRD161J-683	RESISTOR
D322		1SS133	DIODE	R353		QRD161J-103	RESISTOR
		OR MA165	DIODE	R354		QRD161J-123	RESISTOR
D323		1SS133	DIODE	R355		QRD162J-102	RESISTOR
		OR MA165	DIODE	C301		QEK61CM-106	E CAPACITOR
D324		1SS133	DIODE	C302		QEK61CM-106	E CAPACITOR
		OR MA165	DIODE	C303		QEK61CM-106	E CAPACITOR
D325		1SS133	DIODE	C304		QEK61CM-106	E CAPACITOR
		OR MA165	DIODE	C305		QEK61CM-106	E CAPACITOR
D326		1SS133	DIODE	C306		QCVB1CN-103	CAPACITOR
		OR MA165	DIODE	C307		QCVB1CN-103	CAPACITOR
D327		1SS133	DIODE	C308		QEK60JM-476	E CAPACITOR
		OR MA165	DIODE	C309		QEK61CM-226	E CAPACITOR
D328		1SS133	DIODE	C310		QEK61CM-226	E CAPACITOR
		OR MA165	DIODE	C311		QCVB1CN-103	CAPACITOR
D329		1SS133	DIODE	C312		QEK61CM-476	E CAPACITOR
		OR MA165	DIODE	C313		QETB1AM-477	E CAPACITOR
D330		1SS133	DIODE	C314		QCVB1CN-103	CAPACITOR
		OR MA165	DIODE	C315		QEK61CM-476	E CAPACITOR
D331		1SS133	DIODE	C316		QETB0JM-477	E CAPACITOR
		OR MA165	DIODE	C317		QCVB1CN-103	CAPACITOR
R301		QRD161J-472	RESISTOR	C318		QCVB1CN-103	CAPACITOR
R302		QRD161J-680	RESISTOR	C319		QEK61CM-476	E CAPACITOR
R303		QRD127J-391	RESISTOR	C320		QCVB1CN-103	CAPACITOR
R304		QRD162J-750	RESISTOR	C321		QEK61EM-476	E CAPACITOR
R305		QRD161J-472	RESISTOR	C322		QCVB1CN-103	CAPACITOR
R306		QRD181J-561	RESISTOR	C323		QCVB1CN-103	CAPACITOR
R307		QRD161J-750	RESISTOR	C324		QCVB1CN-103	CAPACITOR
R308		QRD181J-561	RESISTOR	C325		QCSB1HJ-101	CAPACITOR
R309		QRD161J-750	RESISTOR	C327		QCSB1HJ-560	CAPACITOR
R310		QRD161J-472	RESISTOR	C328		QCVB1CN-103	CAPACITOR
R311		QRD161J-102	RESISTOR	C329		QEK61CM-106	E CAPACITOR
R312		QRD161J-102	RESISTOR	C330		QCVB1CN-103	CAPACITOR
R313		QRD161J-472	RESISTOR	C332		QCVB1CN-103	CAPACITOR
R314		QRD161J-472	RESISTOR	C333		QCVB1CN-103	CAPACITOR
R315		QRD161J-332	RESISTOR	C334		QEK61CM-106	E CAPACITOR
R316		QRD161J-473	RESISTOR	C335		QCSB1HJ-560	CAPACITOR
R317		QRD161J-103	RESISTOR	C336		QCVB1CN-103	CAPACITOR
R319		QRD161J-103	RESISTOR	C337		QCVB1CN-103	CAPACITOR
R320		QRD161J-223	RESISTOR	C338		QCVB1CN-103	CAPACITOR
R321		QRD161J-223	RESISTOR	C339		QEK61HM-105	E CAPACITOR
R322		QRD161J-222	RESISTOR	C341		QEK60JM-476	E CAPACITOR
R325		QRD161J-222	RESISTOR	C342		QCVB1CN-103	CAPACITOR
R326		QRD161J-102	RESISTOR	C343		QCVB1CN-103	CAPACITOR
R327		QRD161J-102	RESISTOR	C344		QCVB1CN-103	CAPACITOR
R328		QRD161J-223	RESISTOR	C345		QCVB1CN-103	CAPACITOR
R329		QRD161J-392	RESISTOR	C346		QCSB1HJ-390	CAPACITOR
R330		QRD161J-272	RESISTOR	C347		QCVB1CN-103	CAPACITOR
R331		QRD161J-331	RESISTOR	C350		QEK61AM-226	E CAPACITOR
R332		QRD161J-101	RESISTOR	C353		QCSB1HJ-561	CAPACITOR
R333		QRD161J-272	RESISTOR	C354		QCSB1HJ-330	CAPACITOR
R335		QRD161J-223	RESISTOR	L301		PU48530-101K	COIL
R337		QRD161J-182	RESISTOR	L302		PU48530-101K	COIL
R338		QRD161J-103	RESISTOR	L303		PU48530-101K	COIL
R339		QRD161J-223	RESISTOR	L304		PU48530-101K	COIL
R340		QRD161J-272	RESISTOR	L306		PU48530-101K	COIL
R341		QRD161J-562	RESISTOR	L307		PU59152-180J	COIL
R342		QRD161J-223	RESISTOR	L308		PU48530-101K	COIL

#1	REF NO.	PART NO.	PART NAME, DESCRIPTION
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L309	PU48530-101K	COIL
L310	PU59153-822J	COIL
L311	PU59152-100J	COIL
EQ301	PU54838	EQUALIZER
BPF301	PU57072	BAND PASS FILTER
SLD4	PQ43207	SHIELD COVER

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 \* 11. A/C HEAD BOARD ASSEMBLY <12> \*

PWBA	PB40029	A/C HEAD BOARD ASSY
CN1	PU58844-103	CAP HOUSING
CN2	PU58844-104B	CAP HOUSING

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 \* 12. TIMER BOARD ASSEMBLY <20> \*

PWBA	PGE20308A-01	TIMER BOARD ASSY
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IC1	UPD75216ACW-A37	IC
IC2	S-8053HNB	IC

IC301	SDA5642	IC
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Q1	2SD1863(QR)	TRANSISTOR
Q2	2SC3311A(RS)	TRANSISTOR
Q3	DTC124ES	TRANSISTOR
Q4	2SC3311A(RS)	TRANSISTOR
Q5	DTC124ES	TRANSISTOR
Q6	DTC124ES	TRANSISTOR

D1	RD9.1ES-T1B2	ZENER DIODE
	OR HZS9.1EB2TJ	ZENER DIODE
D2	DA210S	DIODE
D3	MTZJ4.7C	ZENER DIODE
	OR RD4.7ES-T1B3	ZENER DIODE
D4	MTZ8.2B	ZENER DIODE
	OR RD8.2ES-T1B2	ZENER DIODE
D5	MTZ8.2B	ZENER DIODE
	OR RD8.2ES-T1B2	ZENER DIODE
D6	1SS133	DIODE
	OR MA165	DIODE
D7	1SS133	DIODE
	OR MA165	DIODE
D8	1SS133	DIODE
	OR MA165	DIODE
D9	1SS133	DIODE
	OR MA165	DIODE
D10	1SS133	DIODE
	OR MA165	DIODE

D25	1SS133	DIODE
D26	1SS133	DIODE
D29	1SS133	DIODE
D30	1SS133	DIODE

D35	1SS133	DIODE
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R1	QRD161J-121	RESISTOR
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#1	REF NO.	PART NO.	PART NAME, DESCRIPTION
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R2	QRD161J-102	RESISTOR
R3	QRD161J-103	RESISTOR
R4	QRD161J-682	RESISTOR
R5	QRD161J-104	RESISTOR
R6	QRD161J-151	RESISTOR
R7	QRD161J-102	RESISTOR
R8	QRD161J-104	RESISTOR
R9	QRD161J-472	RESISTOR
R10	QRD161J-102	RESISTOR

R11	QRD161J-102	RESISTOR
R12	QRD161J-102	RESISTOR
R13	QRD161J-102	RESISTOR
R14	QRD161J-102	RESISTOR
R15	QRD161J-102	RESISTOR
R16	QRD161J-102	RESISTOR
R17	QRD161J-102	RESISTOR
R18	QRD161J-102	RESISTOR
R19	QRD161J-102	RESISTOR
R20	QRD161J-102	RESISTOR

R21	QRD161J-102	RESISTOR
R22	QRD161J-472	RESISTOR
R23	QRD161J-472	RESISTOR
R24	QRD161J-472	RESISTOR
R25	QRD161J-472	RESISTOR
R26	QRD161J-102	RESISTOR
R29	QRD161J-472	RESISTOR
R30	QRD161J-472	RESISTOR

R31	QRD161J-472	RESISTOR
R32	QRD161J-472	RESISTOR
R33	QRD161J-472	RESISTOR
R34	QRD161J-472	RESISTOR
R35	QRD161J-472	RESISTOR
R36	QRD161J-472	RESISTOR
R37	QRD161J-472	RESISTOR
R38	QRD161J-472	RESISTOR
R39	QRD161J-472	RESISTOR
R40	QRD161J-472	RESISTOR
R41	QRD161J-472	RESISTOR
R42	QRD161J-472	RESISTOR
R43	QRD161J-333	RESISTOR
R44	QRD161J-472	RESISTOR
R45	QRD161J-472	RESISTOR
R46	QRD161J-102	RESISTOR
R47	QRD161J-333	RESISTOR
R49	QRD161J-272	RESISTOR
R50	QRD161J-271	RESISTOR

R51	QRD161J-271	RESISTOR
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R301	QRD161J-824	RESISTOR
R302	QRD161J-101	RESISTOR
R303	QRD161J-562	RESISTOR
R304	QRD161J-104	RESISTOR
R305	QRD161J-103	RESISTOR
R306	QRD161J-103	RESISTOR
R307	QRD161J-105	RESISTOR
R308	QRD161J-824	RESISTOR
R309	QRD161J-104	RESISTOR
R310	QRD161J-202	RESISTOR

RA1	QRB067J-224	RESISTOR ARRAY
	OR QRB069J-224C	RESISTOR ARRAY
RA2	QRB067J-104	NETWORK RESISTOR
	OR QRB069J-104C	RESISTOR ARRAY
	OR QRB069J-104	NETWORK RESISTOR
RA3	QRB047J-333	RESISTOR ARRAY
	OR QRB049J-333	RESISTOR ARRAY
	OR QRB049J-333C	RESISTOR ARRAY
RA4	QRB037J-104	NETWORK RESISTOR

# REF NO. PART NO. PART NAME, DESCRIPTION

	OR QRB039J-104C	RESISTOR ARRAY
	OR QRB039J-104	NETWORK RESISTOR
C1	QETC1CM-336	E CAPACITOR
C2	QETC1HM-335	E CAPACITOR
C3	QCB81HJ-102	CAPACITOR
C4	PU60676-473	E CAPACITOR
	OR QEA40HZ-473	E CAPACITOR (DOUBLE)
C5	QETC1AM-336	E CAPACITOR
C6	QETC0JM-336	E CAPACITOR
C7	QCVB1CN-103	CAPACITOR
C8	QETC1CM-106	E CAPACITOR
C9	QCVB1CN-103	CAPACITOR
C10	PU57672-200	TRIMMER CAPACITOR
C11	QCT30CH-120	CAPACITOR
C101	QCF11HP-223	CAPACITOR
C301	QFN31HJ-103	M CAPACITOR
C302	QFN31HJ-333	M CAPACITOR
C303	QFN31HJ-103	M CAPACITOR
C304	QETC1HM-104	E CAPACITOR
C305	QCB81HJ-151	CAPACITOR
L1	PU48530-101K	COIL
L11	PU48530-271J	COIL
X1	PU60226-2	CRYSTAL RESONATOR
SKT1	PGZ01001	IC SOCKET
TP1	PU56008	TEST-PIN, X3(TP1-3)
CN1	PU59555-8	CAP HOUSING
CN3	PU58844-6	CAP HOUSING
CN4	PU58844-12	CAP HOUSING
CP1	ICP-F10	CIRCUIT PROTECTOR

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 \* 13. OPERATION-1 BOARD ASSEMBLY <22> \*  
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PWBA	PRK10010A1-03	OPERATION 1 BOARD ASSY
IC1	LA7225	IC
Q1	2SB643R	TRANSISTOR
O1	SLR-34VC3F	LE DIODE
R1	QRD161J-472	RESISTOR
R2	QRD161J-332	RESISTOR
R3	QRD161J-222	RESISTOR
R4	QRD161J-222	RESISTOR
R5	QRD161J-222	RESISTOR
R6	QRD161J-472	RESISTOR
R7	QRD161J-332	RESISTOR
R8	QRD161J-222	RESISTOR
R9	QRD161J-222	RESISTOR
R10	QRD161J-102	RESISTOR
R21	QRD161J-222	RESISTOR
R22	QRD161J-222	RESISTOR
R23	QRD161J-152	RESISTOR
R24	QRD161J-102	RESISTOR
R25	QRD161J-120	RESISTOR
R26	QRD161J-104	RESISTOR
R27	QRD161J-222	RESISTOR

# REF NO. PART NO. PART NAME, DESCRIPTION

R28	QRD161J-104	RESISTOR
R29	QRD161J-102	RESISTOR
R31	PGZ01274	V RESISTOR
R32	PGZ01274	V RESISTOR
R33	PGZ01117	V RESISTOR
R34	QRD161J-103	RESISTOR
C1	QER61AM-476	E CAPACITOR
C2	QER60JM-476	E CAPACITOR
C3	QER61HM-225	E CAPACITOR
C4	QER61EM-476	E CAPACITOR
C5	QFJ41HJ-273	M CAPACITOR
C6	QCB81HJ-471	CAPACITOR
L1	PU59060	TRAP COIL
L2	PU59152-390J	PEAKING COIL
L3	PU59152-390J	PEAKING COIL
S1	PU57551	TACT SWITCH
S2	PU57551	TACT SWITCH
S3	PU57551	TACT SWITCH
S4	PU57551	TACT SWITCH
S5	PU57551	TACT SWITCH
S6	PU57551	TACT SWITCH
S7	PU57551	TACT SWITCH
S8	PU57551	TACT SWITCH
S9	PU57551	TACT SWITCH
S10	PU57551	TACT SWITCH
S11	PGZ01092	PUSH SWITCH
S12	PU57551	TACT SWITCH
CL1	PU59311-2	WIRE CLAMP
HD1	PQ40795-4-2	LED HOLDER
JA1	PU58356-2	MINI JACK
JA2	PU58355-2	MINI JACK
JA3	PGZ00409	PIN JACK
CN1	PU58844-10	CAP HOUSING
CN2	PU58844-6	CAP HOUSING
CN3	PU58844-3R	CAP HOUSING
CN4	PU58844-6	CAP HOUSING
CN5	PU58844-5	CAP HOUSING
CN6	PU58844-3	CAP HOUSING

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 \* 14. OPERATION-2 BOARD ASSEMBLY <23> \*  
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PWBA	PRK10010A2-01	OPERATION 2 BOARD ASSY
Q101	DTA124ES	TRANSISTOR
Q102	DTA124ES	TRANSISTOR
D101	SLR-55MC3F	LE DIODE
D102	SLR-55VC3F	LE DIODE
D103	SLR-55VC3F	LE DIODE
R101	QRD161J-223	RESISTOR
R102	QRD161J-103	RESISTOR
R103	QRD161J-472	RESISTOR
R104	QRD161J-332	RESISTOR
R105	QRD161J-222	RESISTOR
R106	QRD161J-331	RESISTOR
R107	QRD161J-102	RESISTOR
R108	QRD161J-221	RESISTOR
R109	QRD161J-221	RESISTOR



#	REF NO.	PART NO.	PART NAME, DESCRIPTION
	S101	PU57551	TACT SWITCH
	S102	PU57551	TACT SWITCH
	S103	PU57551	TACT SWITCH
	S104	PU57551	TACT SWITCH
	S105	PU57551	TACT SWITCH
	S106	PU57551	TACT SWITCH
	S107	PU57551	TACT SWITCH
	S108	PU57551	TACT SWITCH
	S109	PU57551	TACT SWITCH
	S110	PU57551	TACT SWITCH
	S111	PU57551	TACT SWITCH
	S112	PU57551	TACT SWITCH
	S113	PU57551	TACT SWITCH
	S114	PU57551	TACT SWITCH
	S115	PU57551	TACT SWITCH
	S116	PU57551	TACT SWITCH
	S117	PU57551	TACT SWITCH
	S118	PU57551	TACT SWITCH
	S119	PU57551	TACT SWITCH
	S120	PU57551	TACT SWITCH
	S121	PU57551	TACT SWITCH
	S122	PU57551	TACT SWITCH
	S131	PU58486-1-1	SLIDE SWITCH
	S132	PU58486-1-1	SLIDE SWITCH
	S133	PU58488-1-1	SLIDE SWITCH
	S134	PU58486-1-1	SLIDE SWITCH
	S135	PU58488-1-1	SLIDE SWITCH
	S136	PG200766	SLIDE SWITCH
	CL1	PU59311-2	WIRE CLAMP
	HN1	PG201031-02	P C SUPPORT, X3
	SCW1	SBST3006Z	SCREW, X3
	SPC1	PU50634-2	LED SPACER, X3
	CN101	PU58844-10	CAP HOUSING
	CN102	PU58844-3Y	CAP HOUSING
	CN103	PU58844-10	CAP HOUSING
	CN104	PU58844-4	CAP HOUSING
	CN105	PU58844-3	CAP HOUSING
	CN106	PU58844-5	CAP HOUSING
	CN107	PU58844-3	CAP HOUSING
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* 15. DISPLAY BOARD ASSEMBLY <27> *			
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	PWBA	PRK200268-03	DISPLAY BOARD ASSY, BR-S600E(B)
		PRK20026A-03	DISPLAY BOARD ASSY, BR-S600E
	IC1	MSC7112-01SS	IC
	IC2	MSC1146BRS	IC
	IC3	JCL0002	IC, BR-S600E(B)
	Q1	2SK658	FE TRANSISTOR
	R1	QRD161J-102	RESISTOR
	R2	QRD161J-102	RESISTOR
	R3	QRD161J-102	RESISTOR
	R4	QRD161J-273	RESISTOR
	R5	QRD161J-102	RESISTOR
	R6	QRD161J-103	RESISTOR
	R7	QRD161J-103	RESISTOR
	R8	QRD161J-103	RESISTOR
	R9	QRD161J-153	RESISTOR

#	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R10	QRD161J-104	RESISTOR
	R11	QRD161J-103	RESISTOR
	R12	QRD161J-101	RESISTOR
	R13	QRD161J-101	RESISTOR
	R14	QRD161J-103	RESISTOR
	R15	QRD161J-101	RESISTOR
	R16	QRD161J-101	RESISTOR
	R17	QRD161J-104	RESISTOR
	C1	QCB81HJ-101	CAPACITOR
	C2	QER41HM-104	E CAPACITOR
	C3	QER40JM-336	E CAPACITOR
	C4	QCV81CM-103	CAPACITOR
	C5	QER41VM-106	E CAPACITOR
	C6	QER40JM-226	E CAPACITOR
	C7	QER40JM-226	E CAPACITOR
	C8	QER41CM-106	E CAPACITOR
	C9	QFJ41HJ-223	M CAPACITOR
	C10	QFJ41HJ-333	M CAPACITOR
	C11	QCV81CM-103	CAPACITOR
	C12	QCV81CM-103	CAPACITOR
	C13	QER41VM-226	E CAPACITOR
	C14	QER40JM-107	E CAPACITOR
	C15	QCS81HJ-330	CAPACITOR
	C16	QCS81HJ-330	CAPACITOR
	C17	QCF11EZ-473	CAPACITOR
	C18	QCS81HJ-330	CAPACITOR
	C19	QER40JM-107	E CAPACITOR
	C20	QER40JM-107	E CAPACITOR
	C101	QCF11HP-223	CAPACITOR
	L11	PU48530-271J	COIL
	FDP1	PU60660	FLUORESCENT DISPLAY PANEL
	CL1	PU59311-2	WIRE CLAMP
	HD1	PQ31309	FDP HOLDER(L)
	HD2	PQ31310	FDP HOLDER(R)
	HD3	PRD42546-02	DISPLAY SHEET
	CN1	PU58844-103Y	CAP HOUSING
	CN2	PU58844-103	CAP HOUSING
	CN3	PU58844-105	CAP HOUSING
	CN4	PU58844-103	CAP HOUSING
	CN5	PU58844-103R	CAP HOUSING
	CN6	PU58844-106	CAP HOUSING
	CN7	PU58844-107	CAP HOUSING
	CN8	PU59513-11	CONNECTOR, BR-S600E(B)

#	REF NO.	PART NO.	PART NAME, DESCRIPTION
	Q10	2SC1740S(QRS)	TRANSISTOR
	Q11	DTC124ES	TRANSISTOR
	Q12	DTC124ES	TRANSISTOR
	D1	1SS133	DIODE
	D2	1SS133	DIODE
	D3	1SS133	DIODE
	D4	1SS133	DIODE
	D5	1SS133	DIODE
	D6	1SS133	DIODE
	D7	1SS133	DIODE
	D8	1SS133	DIODE
	D9	1SS133	DIODE
	R1	QRD167J-103	RESISTOR
	R2	QRD167J-222	RESISTOR
	R3	QRD167J-102	RESISTOR
	R4	QRD167J-472	RESISTOR
	R5	QRD167J-472	RESISTOR
	R6	QRD167J-472	RESISTOR
	R7	QRD167J-223	RESISTOR
	R8	QRD167J-105	RESISTOR
	R9	QRD167J-103	RESISTOR
	R10	QRD167J-104	RESISTOR
	R11	QRD167J-105	RESISTOR
	R12	QRD167J-104	RESISTOR
	R13	QRD167J-563	RESISTOR
	R14	QRD161J-104	RESISTOR
	R15	QRD167J-334	RESISTOR
	R16	QRD167J-103	RESISTOR
	R17	QRD167J-105	RESISTOR
	R18	QRD167J-222	RESISTOR
	R19	QRD167J-222	RESISTOR
	R20	QRD167J-103	RESISTOR
	R21	QRD167J-104	RESISTOR
	R22	QRD167J-103	RESISTOR
	C1	QFN31HJ-103	M CAPACITOR
	C2	QETC1CM-106	E CAPACITOR
	C3	QFN31HJ-103	M CAPACITOR
	C4	QETC1EM-475	E CAPACITOR
	C5	QFN31HJ-103	M CAPACITOR
	C6	QFN31HJ-103	M CAPACITOR
	C7	QETC1CM-106	E CAPACITOR
	C8	QETC1EM-335	E CAPACITOR
	C9	QETC1EM-475	E CAPACITOR
	C10	QETC1HM-104	E CAPACITOR
	CN1	PU58844-3	CAP HOUSING
	CN2	PU58844-5	CAP HOUSING
	CN3	PU58844-2	CAP HOUSING

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 \* 17. 15PIN TERMINAL BOARD ASSEMBLY <30> \*  
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PWBA	PGE30206A-01	15P TERMINAL BOARD ASSY, E(B)
		-15P TERMINAL 1 BOARD ASSEMBLY-
PWBA1	PGE30206A1-01	15P TERMINAL 1 BOARD ASSY
IC1	TC74HC04AP	IC
Q1	DTC124EF	TRANSISTOR
Q2	DTC124EF	TRANSISTOR
Q3	DTC124EF	TRANSISTOR

#	REF NO.	PART NO.	PART NAME, DESCRIPTION
	Q4	DTC124EF	TRANSISTOR
	Q5	DTC124EF	TRANSISTOR
	Q6	DTC124EF	TRANSISTOR
	D1	1SS133	DIODE
	R1	QRD167J-104	RESISTOR
	R2	QRD167J-104	RESISTOR
	R3	QRD167J-104	RESISTOR
	R4	QRD167J-104	RESISTOR
	R5	QRD167J-104	RESISTOR
	R6	QRD167J-104	RESISTOR
	△ VA1	PU49624-2	VARISTOR
	△ VA2	PU49624-2	VARISTOR
	△ VA3	PU49624-2	VARISTOR
	△ VA4	PU49624-2	VARISTOR
	△ VA5	PU49624-2	VARISTOR
	△ VA6	PU49624-2	VARISTOR
	△ VA7	PU49624-2	VARISTOR
	CN1	PU58844-111	CAP HOUSING
	CN2	PU58844-103	CAP HOUSING
	△ CP1	ICP-F10	CIRCUIT PROTECTOR
		-15P TERMINAL 2 BOARD ASSEMBLY-	
	PWBA2	PGE30206A2-01	15P TERMINAL 2 BOARD ASSY
	BKT1	PRD42550	15P BRACKET
	J1	PGZ00755	15P CONNECTOR
	J2	PQ20727	JACK BOARD
	J3	PRD30402	JACK SHEET
	SCW1	SDSF3006Z	SCREW, X2

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 \* 18. SERVO SUB BOARD ASSEMBLY <39> \*  
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PWBA	PB30095A-02	SERVO SUB BOARD ASSY
IC1	BU3791	IC
Q1	DTC144ES	TRANSISTOR
	OR UN4213	TRANSISTOR
	OR 2SC3399	TRANSISTOR
Q2	DTC124ES	TRANSISTOR
Q3	DTC144WS	TRANSISTOR
D1	1SS133	DIODE
	OR MA165	DIODE
R1	QRD161J-103	RESISTOR
R2	QRD161J-104	RESISTOR
R3	QRD161J-104	RESISTOR
R4	QRD161J-104	RESISTOR
R5	QRD161J-104	RESISTOR
R6	QRD161J-822	RESISTOR
R7	QRD161J-104	RESISTOR
R8	QRD161J-103	RESISTOR
R9	QRD161J-563	RESISTOR
R10	QRD161J-472	RESISTOR
C1	QCBB1HJ-102	CAPACITOR
C2	QCC11CK-104	CAPACITOR
C3	QCBB1HJ-102	CAPACITOR
C4	QCBB1HJ-121	CAPACITOR

#1 REF NO. PART NO. PART NAME, DESCRIPTION

C5	QEK61AM-336	E CAPACITOR
C6	QFN31HJ-103	M CAPACITOR

CN1	PUS9555-7	CAP HOUSING
CN2	PUS8844-7	CAP HOUSING
CN5	PUS8844-2	CAP HOUSING

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 \* 19. PRE/REC AMP BOARD ASSEMBLY <43> \*  
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PWBA PGE10143A PRE/REC BOARD ASSY

IC1	TA8609P	IC
IC2	TA8733F	IC
IC3	AN6392	IC

Q1	2SC2412K	TRANSISTOR
Q2	2SC2412K	TRANSISTOR
Q3	2SC2412K	TRANSISTOR
Q4	2SC2412K	TRANSISTOR
Q6	2SC2412K	TRANSISTOR
Q7	2SC2412K	TRANSISTOR
Q8	2SA1037K	TRANSISTOR
Q9	2SA1037K	TRANSISTOR
Q10	DTC144EK	TRANSISTOR

Q11	DTC144EK	TRANSISTOR
Q12	DTC124EK	TRANSISTOR
Q13	2SA1036K(R)	TRANSISTOR
Q14	2SA1036K(R)	TRANSISTOR
Q15	DTC124EK	TRANSISTOR
Q16	QTC144WK	TRANSISTOR

Q101	DTA124EK	TRANSISTOR
Q102	DTA124EK	TRANSISTOR
Q103	DTC144WK	TRANSISTOR
Q104	2SA1037K	TRANSISTOR
Q105	2SC2412K	TRANSISTOR
Q106	2SC2412K	TRANSISTOR
Q107	2SA1037K	TRANSISTOR
Q108	2SC2412K	TRANSISTOR
Q109	2SA1037K	TRANSISTOR
Q110	DTC124EK	TRANSISTOR

Q111	2SC2412K	TRANSISTOR
Q112	2SC2412K	TRANSISTOR
Q113	2SC2412K	TRANSISTOR
Q114	2SC2412K	TRANSISTOR
Q115	2SC2412K	TRANSISTOR
Q116	2SC2412K	TRANSISTOR
Q117	2SC2412K	TRANSISTOR
Q118	2SA1037K	TRANSISTOR
Q119	2SC2412K	TRANSISTOR

D1	DAN202K	DIODE ARRAY
D2	DAN202K	DIODE ARRAY
D3	DAN202K	DIODE ARRAY
D5	DAN202K	DIODE ARRAY

D101	DAN202K	DIODE ARRAY
D102	DAN202K	DIODE ARRAY
D103	DAP202K	DIODE
D104	MA157	DIODE
D105	MA157	DIODE

R1	QRSA08J-100YN	RESISTOR
R2	QRSA08J-272YN	RESISTOR
R3	QRSA08J-100YN	RESISTOR
R4	QRSA08J-272YN	RESISTOR

#1 REF NO. PART NO. PART NAME, DESCRIPTION

R5	QRSA08J-103YN	RESISTOR
R6	QRSA08J-100YN	RESISTOR
R7	QRSA08J-100YN	RESISTOR
R8	QRSA08J-272YN	RESISTOR
R9	QRSA08J-272YN	RESISTOR
R10	QRSA08J-103YN	RESISTOR

R11	QVZ3531-152	V RESISTOR
R12	QVZ3531-152	V RESISTOR
R13	QVZ3531-152	V RESISTOR
R14	QRSA08J-103YN	RESISTOR
R15	QVZ3531-152	V RESISTOR
R19	QRSA08J-122YN	RESISTOR
R20	QRSA08J-221YN	RESISTOR

R21	QRSA08J-102YN	RESISTOR
R22	QRSA08J-122YN	RESISTOR
R23	QRSA08J-221YN	RESISTOR
R24	QRSA08J-102YN	RESISTOR
R25	QRSA08J-122YN	RESISTOR
R26	QRSA08J-122YN	RESISTOR
R27	QRSA08J-103YN	RESISTOR
R28	QRSA08J-103YN	RESISTOR
R29	QRSA08J-393YN	RESISTOR
R30	QRSA08J-393YN	RESISTOR

R31	QRD161J-681	RESISTOR
R32	QRSA08J-471YN	RESISTOR
R33	QRSA08J-391YN	RESISTOR
R34	QRSA08J-623YN	RESISTOR
R35	QRSA08J-821YN	RESISTOR
R36	QRSA08J-680YN	RESISTOR
R37	QRSA08J-820YN	RESISTOR
R38	QRSA08J-102YN	RESISTOR
R39	QRSA08J-472YN	RESISTOR
R40	QRSA08J-222YN	RESISTOR

R41	QRSA08J-561YN	RESISTOR
R42	QRSA08J-393YN	RESISTOR
R43	QRD161J-222	RESISTOR
R44	QRSA08J-393YN	RESISTOR
R45	QRSA08J-222YN	RESISTOR
R46	QRSA08J-103YN	RESISTOR
R47	QRSA08J-103YN	RESISTOR
R48	PUS2108-150	POSITIVE THERMISTOR
R49	QRD161J-333	RESISTOR
R50	QRSA08J-101YN	RESISTOR

R51	QRSA08J-103YN	RESISTOR
R52	QRSA08J-823YN	RESISTOR
R53	QRSA08J-102YN	RESISTOR
R54	QRSA08J-821YN	RESISTOR
R55	QRSA08J-102YN	RESISTOR
R56	QRSA08J-102YN	RESISTOR

R101	QRSA08J-223YN	RESISTOR
R102	QRSA08J-273YN	RESISTOR
R103	QRSA08J-102YN	RESISTOR
R104	QRSA08J-102YN	RESISTOR
R105	QRSA08J-271YN	RESISTOR
R106	PUS7457-152	V RESISTOR
R107	QRSA08J-103YN	RESISTOR
R108	PUS7457-222	V RESISTOR
R109	QRSA08J-561YN	RESISTOR
R110	QRSA08J-152YN	RESISTOR

R111	QRSA08J-561YN	RESISTOR
R112	QRSA08J-472YN	RESISTOR
R113	QRSA08J-561YN	RESISTOR
R114	QRSA08J-152YN	RESISTOR
R117	QRSA08J-102YN	RESISTOR
R118	QRSA08J-102YN	RESISTOR
R119	QRSA08J-122YN	RESISTOR
R120	QRSA08J-102YN	RESISTOR

\* REF NO. PART NO. PART NAME, DESCRIPTION

R121 QRSA08J-102YN RESISTOR  
 R122 QRSA08J-471YN RESISTOR  
 R123 QRSA08J-561YN RESISTOR  
 R124 QRSA08J-122YN RESISTOR  
 R125 QRSA08J-102YN RESISTOR  
 R126 QRSA08J-122YN RESISTOR  
 R127 QRSA08J-222YN RESISTOR  
 R128 QRSA08J-681YN RESISTOR  
 R129 QRSA08J-101YN RESISTOR  
 R130 PU57457-682 V RESISTOR

R131 PU57457-332 V RESISTOR  
 R134 QRSA08J-102YN RESISTOR  
 R135 QRSA08J-103YN RESISTOR  
 R136 QRSA08J-223YN RESISTOR  
 R137 QRSA08J-471YN RESISTOR  
 R138 QRSA08J-102YN RESISTOR  
 R139 QRSA08J-102YN RESISTOR  
 R140 QRSA08J-392YN RESISTOR

R141 QRSA08J-102YN RESISTOR  
 R142 QRSA08J-682YN RESISTOR  
 R143 QRSA08J-361YN RESISTOR  
 R144 QRSA08J-561YN RESISTOR  
 R145 QRSA08J-152YN RESISTOR  
 R146 QRSA08J-332YN RESISTOR  
 R147 QRSA08J-472YN RESISTOR  
 R148 QRSA08J-184YN RESISTOR  
 R149 QRSA08J-682YN RESISTOR  
 R150 QRSA08J-184YN RESISTOR

R151 QRSA08J-223YN RESISTOR  
 R152 QRSA08J-102YN RESISTOR  
 R154 QRSA08J-821YN RESISTOR

B1 QRSA08J-0R0Y RESISTOR, X14

B14 QRD161J-0R0 RESISTOR

C1 QCFA1HZ-103 CAPACITOR  
 C2 PU60733-200 TRIMMER CAPACITOR  
 C3 QCFA1HZ-103 CAPACITOR  
 C4 PU60733-200 TRIMMER CAPACITOR  
 C5 PU60733-200 TRIMMER CAPACITOR  
 C6 QCFA1HZ-103 CAPACITOR  
 C7 PU60733-100 TRIMMER CAPACITOR  
 C8 QCFA1HZ-103 CAPACITOR  
 C9 QER51HM-105 E CAPACITOR  
 C10 QER51HM-105 E CAPACITOR

C11 QER51HM-105 E CAPACITOR  
 C12 QER51HM-105 E CAPACITOR  
 C13 QER50JM-476 E CAPACITOR  
 C14 QCFA1HZ-103 CAPACITOR  
 C15 QCFA1HZ-103 CAPACITOR  
 C16 QCFA1HZ-103 CAPACITOR  
 C17 QCFA1HZ-103 CAPACITOR  
 C18 QCSA1HJ-560 CAPACITOR  
 C19 QCSA1HJ-151 CAPACITOR  
 C20 QCSA1HJ-271 CAPACITOR

C21 QER50JM-476 E CAPACITOR  
 C22 QCFA1HZ-103 CAPACITOR  
 C23 QCSA1HJ-331 CAPACITOR  
 C24 QCSA1HJ-121 CAPACITOR  
 C25 QCFA1HZ-103 CAPACITOR  
 C26 QER51HM-104 E CAPACITOR  
 C27 QCFA1HZ-103 CAPACITOR  
 C28 QER51HM-105 E CAPACITOR  
 C29 QER51HM-105 E CAPACITOR  
 C30 QCFA1HZ-103 CAPACITOR

C31 QCFA1HZ-103 CAPACITOR

\* REF NO. PART NO. PART NAME, DESCRIPTION

C32 QER51CM-476 E CAPACITOR  
 C33 QCFA1HZ-103 CAPACITOR  
 C34 QFN41HJ-273 M CAPACITOR  
 C35 QFN31HJ-103 M CAPACITOR  
 C36 QER51HM-105 E CAPACITOR  
 C37 QCSA1HJ-470 CAPACITOR  
 C38 QCFA1HZ-103 CAPACITOR  
 C39 QCFA1HZ-103 CAPACITOR  
 C40 QCSA1HJ-7R0 CAPACITOR

C41 QER50JM-476 E CAPACITOR  
 C42 QCFA1HZ-103 CAPACITOR  
 C43 QCFA1HZ-103 CAPACITOR  
 C44 QCSA1HJ-121 CAPACITOR  
 C45 QCSA1HJ-101 CAPACITOR  
 C46 QCFA1HZ-103 CAPACITOR  
 C47 QCFA1HZ-103 CAPACITOR  
 C48 QCFA1HZ-103 CAPACITOR  
 C49 QCFA1HZ-103 CAPACITOR  
 C50 QCVB1CN-103 CAPACITOR

C51 QCFA1HZ-103 CAPACITOR  
 C52 QCFA1HZ-103 CAPACITOR  
 C53 QCFA1HZ-103 CAPACITOR

C102 QCSA1HJ-180 CAPACITOR  
 C103 QCFA1HZ-103 CAPACITOR  
 C104 QCSA1HJ-390 CAPACITOR  
 C106 QCSA1HJ-180 CAPACITOR  
 C107 QCSA1HJ-390 CAPACITOR  
 C108 QCSA1HJ-120 CAPACITOR  
 C109 QCSA1HJ-100 CAPACITOR  
 C110 QER50JM-476 E CAPACITOR

C111 QCFA1HZ-103 CAPACITOR  
 C112 QCFA1HZ-103 CAPACITOR  
 C113 QCSA1HJ-360 CAPACITOR  
 C114 QCSA1HJ-220 CAPACITOR  
 C115 QCSA1HJ-180 CAPACITOR  
 C117 QCFA1HZ-103 CAPACITOR  
 C118 QCSA1HJ-470 CAPACITOR  
 C120 QCFA1HZ-103 CAPACITOR

C121 QCFA1HZ-103 CAPACITOR  
 C122 QCFA1HZ-103 CAPACITOR  
 C123 QCFA1HZ-103 CAPACITOR  
 C124 QCSA1HJ-681 CAPACITOR  
 C125 QCFA1HZ-103 CAPACITOR  
 C126 QER51HM-105 E CAPACITOR  
 C127 QER51EM-475 E CAPACITOR  
 C128 QCFA1HZ-103 CAPACITOR  
 C129 QER50JM-476 E CAPACITOR  
 C130 QCFA1EZ-104 CAPACITOR

C131 QCSA1HJ-221 CAPACITOR  
 C132 QCSA1HJ-120 CAPACITOR  
 C133 QCSA1HJ-7R0 CAPACITOR  
 C134 QCSA1HJ-680 CAPACITOR  
 C138 QCSB1HJ-100 CAPACITOR

L1 PU48530-101K COIL  
 L2 PU59152-181J COIL  
 L3 PU48530-101K COIL  
 L4 PU59152-820J COIL  
 L5 PU59152-101J COIL  
 L6 PU48530-101K COIL  
 L7 PU59152-4R7K COIL  
 L8 PU59152-270J COIL  
 L9 PU59152-330J COIL  
 L10 PU59152-330J COIL

L11 PU59152-2R2K COIL  
 L12 PU59152-100J COIL  
 L13 PU59152-150J COIL



*Δ REF NO.	PART NO.	PART NAME, DESCRIPTION
L101	PU59152-560J	COIL
L102	PU59152-150J	COIL
L103	PU59152-390J	COIL
L104	PU59152-221J	COIL
L105	PU59152-100J	COIL
L106	PU48530-101K	COIL
L107	PU59152-820J	COIL
L108	PU59152-330J	COIL
L109	PU59152-820J	COIL
L110	PU59152-220J	COIL
L111	PU59152-220J	COIL
L113	PU48530-101K	COIL
L114	PU59152-8R2J	COIL
L115	PU59152-121J	COIL
ETH1	PQ40433-2	EARTH LUG
HN1	PQ42955	BOARD BRACKET
J1	PW30109-50AAZZ7	PARALLEL WIRE
J2	PW30109-50AAZZ7	PARALLEL WIRE
SCW1	DPSP2606Z	SCREW, X2
SCW2	DPSP2606Z	SCREW
SCW3	WBS2600Z	WASHER
SLD1	PU36485	SHIELD PLATE
SLD2	PU36486	SHIELD CASE
SPC1	PU59210-001	W.LOCKING SPACE, X5
TP1	PU56008	TEST PIN, X8(TP1,3-7,GND1,2)
CN1	PU56258-10	CAP HOUSING
CN2	PU58844-5	CAP HOUSING
CN3	PU58844-3R	CAP HOUSING
CN4	PU58844-2	CAP HOUSING
CN5	PU58844-4	CAP HOUSING
CN6	PU58844-5	CAP HOUSING
CN7	PU58844-3	CAP HOUSING

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 \* 20. FLYING ERASE BOARD ASSEMBLY <46> \*  
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PWBA	PB30092A	FLYING ERASE BOARD ASSY
Q1	2SA933S	TRANSISTOR
Q2	2SC1741S(QR)	TRANSISTOR
Q3	2SA933S(Q)	TRANSISTOR
Q4	2SD639R	TRANSISTOR
Q5	2SD639R	TRANSISTOR
D1	UZ8.2BSC	ZENER DIODE
D2	1SS133	DIODE
R1	QRD161J-473	RESISTOR
R2	QRD161J-472	RESISTOR
R3	QRD161J-222	RESISTOR
R4	QRD161J-473	RESISTOR
R5	QRD161J-183	RESISTOR
R6	QRD161J-104	RESISTOR
R7	QRD161J-121	RESISTOR
R8	QRD161J-104	RESISTOR
R9	QRD161J-121	RESISTOR
C1	QCVB1CN-103	CAPACITOR
C2	QCC31EJ-123	CAPACITOR

*Δ REF NO.	PART NO.	PART NAME, DESCRIPTION
C3	QCSB1HJ-560	CAPACITOR
C4	QCB81HJ-820	CAPACITOR
C5	QCVB1CN-103	CAPACITOR
C6	QCB81HJ-820	CAPACITOR
C8	QCT25UJ-18I	CAPACITOR
C9	QCT05UJ-330	CAPACITOR
L1	PU48530-560J	COIL
L2	PU48530-3R3K	COIL
L3	PU48530-3R3K	COIL
L4	PU59152-101J	COIL
T1	PU56175	S.TRANS
SLD1	PU60779	SHIELD CASE
SLD2	PU60781	SHIELD COVER
SLD3	PU60780	SHIELD PLATE
CN1	PU58844-3	CAP HOUSING
CN2	PU58844-2R	CAP HOUSING
CN3	PU58844-2	CAP HOUSING

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 \* 21. SERVO BOARD ASSEMBLY <48> \*  
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PWBA	PB10152A-01	SERVO BOARD ASSY
IC1	HD49722NT	IC
IC2	BU2767S	IC
Q1	DTA124ES	TRANSISTOR
	OR 2SC3400	TRANSISTOR
	OR UN4212	TRANSISTOR
Q2	DTA124ES	TRANSISTOR
	OR 2SA1346	TRANSISTOR
	OR UN4112	TRANSISTOR
Q3	DTA124ES	TRANSISTOR
	OR UN4112	TRANSISTOR
	OR 2SA1346	TRANSISTOR
Q4	DTA124ES	TRANSISTOR
	OR UN4112	TRANSISTOR
	OR 2SA1346	TRANSISTOR
Q5	DTA124ES	TRANSISTOR
	OR 2SA1346	TRANSISTOR
	OR UN4112	TRANSISTOR
Q6	DTC144ES	TRANSISTOR
	OR 2SC3399	TRANSISTOR
	OR UN4213	TRANSISTOR
Q7	DTA124ES	TRANSISTOR
	OR 2SA1346	TRANSISTOR
	OR UN4112	TRANSISTOR
D1	1SS133	DIODE
	OR MA165	DIODE
D2	1SS133	DIODE
	OR MA165	DIODE
D3	1SS133	DIODE
	OR MA165	DIODE
D4	1SS133	DIODE
	OR MA165	DIODE
D5	1SS133	DIODE
	OR MA165	DIODE
D6	1SS133	DIODE
	OR MA165	DIODE
D7	1SS133	DIODE
	OR MA165	DIODE
D8	1SS133	DIODE
	OR MA165	DIODE
D9	1SS133	DIODE

# REF NO. PART NO. PART NAME, DESCRIPTION

D10	1SS133	DIODE
D11	1SS133	DIODE
	OR MA165	DIODE
D12	1SS133	DIODE
	OR MA165	DIODE
D13	1SS133	DIODE
	OR MA165	DIODE
D14	1SS133	DIODE
	OR MA165	DIODE
D15	1SS133	DIODE
	OR MA165	DIODE
D16	1SS133	DIODE
	OR MA165	DIODE
D17	1SS133	DIODE
	OR MA165	DIODE
D18	1SS133	DIODE
	OR MA165	DIODE
D20	1SS133	DIODE
	OR MA165	DIODE
R1	QRSA08J-682YN	RESISTOR
R2	QRSA08J-102YN	RESISTOR
R3	QRSA08J-155YN	RESISTOR
R4	QRSA08J-102YN	RESISTOR
R5	QRSA08J-103YN	RESISTOR
R6	QRSA08J-105YN	RESISTOR
R7	QRSA08J-102YN	RESISTOR
R8	QRSA08J-102YN	RESISTOR
R9	QRSA08J-102YN	RESISTOR
R10	QRSA08J-222YN	RESISTOR
R11	QRSA08J-273YN	RESISTOR
R12	QRSA08J-475YN	RESISTOR
R13	QRSA08J-333YN	RESISTOR
R14	QRSA08J-392YN	RESISTOR
R15	QRSA08J-153YN	RESISTOR
R16	QRSA08J-182YN	RESISTOR
R17	QRSA08J-105YN	RESISTOR
R18	QRSA08J-273YN	RESISTOR
R19	QRSA08J-395YN	RESISTOR
R20	QRSA08J-105YN	RESISTOR
R21	QRSA08J-273YN	RESISTOR
R22	QRSA08J-274YN	RESISTOR
R23	QRSA08J-393YN	RESISTOR
R24	QRSA08J-475YN	RESISTOR
R25	QRSA08J-334YN	RESISTOR
R26	QRD161J-222	RESISTOR
R27	QRSA08J-154YN	RESISTOR
R28	QRSA08J-154YN	RESISTOR
R30	QRD161J-102	RESISTOR
R31	QRD161J-104	RESISTOR
R32	QVZ3521-684	V RESISTOR
R33	QRD161J-104	RESISTOR
R34	QRSA08J-222YN	RESISTOR
R35	QRSA08J-823YN	RESISTOR
R36	QVZ3521-474	V RESISTOR
R37	QRSA08J-103YN	RESISTOR
R38	QVZ3521-474	V RESISTOR
R39	QRD161J-102	RESISTOR
R40	QRD161J-223	RESISTOR
R41	QRD161J-334	RESISTOR
R42	QRSA08J-103YN	RESISTOR
R43	QRSA08J-123YN	RESISTOR
R44	QRSA08J-822YN	RESISTOR
R45	QRSA08J-223YN	RESISTOR
R47	QRSA08J-123YN	RESISTOR
R48	QRSA08J-392YN	RESISTOR
R49	QRSA08J-123YN	RESISTOR
R51	QRSA08J-822YN	RESISTOR

# REF NO. PART NO. PART NAME, DESCRIPTION

R52	QRSA08J-104YN	RESISTOR
R53	QRSA08J-684YN	RESISTOR
R55	QVZ3521-224	V RESISTOR
R56	QRD161J-473	RESISTOR
R57	QRSA08J-154YN	RESISTOR
R58	QRSA08J-274YN	RESISTOR
R59	QVZ3521-104	V RESISTOR
R61	QRSA08J-684YN	RESISTOR
R63	QRSA08J-104YN	RESISTOR
B1	QRSA08J-0R0Y	RESISTOR, X13
C1	QCC11CK-102	CAPACITOR
C2	QEK61AM-226	E CAPACITOR
C3	QEK61AM-226	E CAPACITOR
C4	QCSB1HJ-150	CAPACITOR
C5	QCC11CK-473	CAPACITOR
C6	QCSB1HJ-102	CAPACITOR
C7	QEK61HM-105	E CAPACITOR
C8	QCSB1HJ-102	CAPACITOR
C9	QCC11CK-153	CAPACITOR
C10	QCBC1HJ-561	CAPACITOR
C11	QCC11CK-102	CAPACITOR
C12	QEK61HM-105	E CAPACITOR
C13	QEK61AM-226	E CAPACITOR
C14	QCSB1HJ-101	CAPACITOR
C15	QCC11CK-102	CAPACITOR
C16	QFV71HJ-274	M CAPACITOR
C17	QFV71HJ-564	TF CAPACITOR
C18	QFV71HJ-153	TF CAPACITOR
C19	QEK61EM-475	E CAPACITOR
C20	QEK61EM-475	E CAPACITOR
C21	QEK61CM-106	E CAPACITOR
C22	QEK61CM-106	E CAPACITOR
C23	QFV71HJ-334	M CAPACITOR
C24	QFV71HJ-333	M CAPACITOR
C25	QCSB1HJ-471	CAPACITOR
C26	QFL31HJ-682	M CAPACITOR
C27	QFL31HJ-102	M CAPACITOR
C28	QFV71HJ-124	M CAPACITOR
C29	QCF31HP-223	CAPACITOR
C30	QCSB1HJ-101	CAPACITOR
C31	QCSB1HJ-101	CAPACITOR
C32	QCC11CK-102	CAPACITOR
C33	QFV71HJ-224	M CAPACITOR
C34	QEK61AM-226	E CAPACITOR
C35	QFV71HJ-393	M CAPACITOR
C36	QFV71HJ-274	M CAPACITOR
C37	QFV71HJ-124	M CAPACITOR
C38	QFV71HJ-393	M CAPACITOR
C39	QCSB1HJ-102	CAPACITOR
C40	QCSB1HJ-561	CAPACITOR
C41	QFV71HJ-474	M CAPACITOR
C42	QCSB1HJ-102	CAPACITOR
TH1	NTH50223KA	THERMISTOR
	OR NTH50223LA	THERMISTOR
TP1	PU45908-3	TEST PIN, X2(TP1,GND)
CN1	PU58844-4	CAP HOUSING
CN4	PU58931-14	CAP HOUSING
CN5	PU58931-12	CAP HOUSING
CN6	PU58844-8	CAP HOUSING

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REF NO.	PART NO.	PART NAME, DESCRIPTION
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 \* 22. DECK TERMINAL BOARD ASSEMBLY <51> \*  
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PWBA	PB20013C1	DECK TERMINAL BOARD ASSY
R1	QRD181J-151	RESISTOR
R3	QRD181J-331	RESISTOR
PS1	PU60271	PHOTO INTERRUPTER
CN1	PU59933-17	WIRE TRAP

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 \* 23. RELAY BOARD ASSEMBLY <52> \*  
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PWBA	PB20013C2-02	RELAY BOARD ASSY
C1	QCC11EJ-104	CAPACITOR
Δ LC1	PU59736-471	N FILTER
Δ LC2	PU59736-471	N FILTER
Δ K1	PU60281-5	FERRITE BEADS
WR1	PW30113-GOABZ62	PARALLEL WIRE
WR2	OR PW30118-GOABZ62	PARALLEL WIRE

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 \* 24. REC SAFETY BOARD ASSEMBLY <53> \*  
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PWBA	PB20013A3	REC SAFETY BOARD ASSY
S1	PU58644-1-3	REC SAFETY SWITCH

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 \* 25. END SENSOR BOARD ASSEMBLY <54> \*  
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PWBA	PB20013A4	END SENSOR BOARD ASSY
Q1	PN268R-NC	PHOTO TRANSISTOR
HD1	PQ31047-1-4	E.S.HOLDER
CN1	PU59945-102	WIRE SOCKET

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 \* 26. CASSETTE HOUSING BOARD ASSEMBLY <56> \*  
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PWBA	PB30043	CASSETTE HOUSING BOARD ASSY
	OR PB30097	CASSETTE HOUSING BOARD ASSY

REF NO.	PART NO.	PART NAME, DESCRIPTION
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PT1	PN268R-NC	PHOTO TRANSISTOR
R1	QRD162J-471	RESISTOR
PHS1	PU58879	PHOTO INTERRUPTER
CN1	PU58844-106	CAP HOUSING